

**SYSTEM TRAINING PLAN  
(STRAP)**

**FOR THE**

**THEATER HIGH ALTITUDE AREA DEFENSE  
(THAAD)**

**SYSTEM**



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**SYSTEM TRAINING PLAN (STRAP)  
FOR THE  
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD)  
SYSTEM**

**1. SYSTEM DESCRIPTION**

**a. Narrative.**

THAAD is an integral part of Theater Missile Defense (TMD) and provides upper tier active defense against Theater Ballistic Missiles (TBMs) by destroying them in flight. The THAAD system consists of radars; launchers with missiles; Battle Management/Command, Control, Communications, and Intelligence (BM/C<sup>3</sup>I) equipment, and associated support equipment.

**(1) THAAD Battalion**

The battalion (objective system) will consist of four (4) firing batteries and a Headquarters and Headquarters Battery (HHB). It will consist of the following equipment: one (1) battalion BM/C<sup>3</sup>I set, four (4) battery BM/C<sup>3</sup>I sets, six (6) radar's, thirty-six (36) launchers, five hundred and seventy-six (576) or more missiles and necessary support equipment. The battalion will have two (2) radars in the HHB. HHB equipment may augment deployed batteries to achieve required coverage.

**(2) THAAD Battery**

The battery consists of one (1) set of BM/C<sup>3</sup>I equipment, one (1) radar, nine (9) launchers with missiles, and required support equipment.

**(a) BM/C<sup>3</sup>I.** The BM/C<sup>3</sup>I will control the THAAD system. The BM/C<sup>3</sup>I will have a communications capability for secure and non-secure voice and digital data modes. The BM/C<sup>3</sup>I segment consists of two major components: the Tactical Operations Station (TOS) and the Launch Control Station (LCS). The Tactical Station Group (TSG) is the basic configuration for the TOS and the LCS. A TSG consists of a TOS, LCS, Systems Support Group (SSG) and two generators. It is used to conduct Engagement and Force Operations (EO/FO). A Communications Relay (CR) serves as an internal and external relay for voice and data transfer. A Sensor System Interface (SSI) may be used to support employment of remote radars. System and equipment configurations may vary.

**(b) Radar.** The primary sensor for the system is the THAAD radar. The radar will have a communications capability to receive commands from the BM/C<sup>3</sup>I nodes and to transmit operational status and track data to the BM/C<sup>3</sup>I. The radar will relay BM/C<sup>3</sup>I data to missiles in flight and interface with other elements of the TMD through the BM/C<sup>3</sup>I network. The radar consists of the following components: Antenna Equipment (AE), Prime Power Unit (PPU), Cooling Equipment Unit (CEU), and Electronic Equipment Unit (EEU).

**(c) Launcher.** The launcher is controlled from the BM/C<sup>3</sup>I. The launcher consists of a modified Army model M-1075 Palletized Load System (PLS) truck and a Missile Round Pallet (MRP). The launcher serves as a transporter and erector for the THAAD missile. The launcher is divided into five major areas: the PLS truck, MRP, hydraulic subsystem, electronic communications system, and the electrical subsystem. Each launcher will have a communications capability to receive commands from the BM/C<sup>3</sup>I and to transmit operational status data to the BM/C<sup>3</sup>I. Launchers are normally grouped in sections (three (3) launchers per section).

**(d) Missile.** The missile round consists of a missile and its canister. The missile assembly consists of a single stage solid propellant rocket booster and a homing Kill Vehicle (KV). The canister provides the missile protection during deployment, transportation and storage, and supports the launch function. The THAAD missile provides TBM intercept capability by engaging and neutralizing TBMs using hit-to-kill technology.

**(3) Army Modernization Information Memorandum (AMIM) number:** 825

**(4) New Equipment Training Plan (NETP) number:** MIC 92008

**b. First Unit Equipped (FUE).**

Date: FY 2007 for Configuration #1. FY 2011 for Configuration #2.

## **2. TARGET AUDIENCE**

The proposed target audience for THAAD system is expected to come from the Air Defense Artillery (ADA), Ordnance, Engineer, and Signal career management fields. The THAAD system will use new or existing Military Occupational Specialties (MOSs). The manpower requirements will be determined by the Qualitative and Quantitative Personnel Requirements Information (QQPRI), the Sustainment and Supportability Analysis (SSA), and Manpower and Personnel Integration (MANPRINT) analysis. The force structure is projected to require fourteen hundred (1400) spaces based on two (2) THAAD battalions. The following is a list of MOSs possibly impacted by the fielding of THAAD system:

- 14E Patriot Fire Control Enhanced Operator/Maintainer
- 14J Air Defense Command, Control, Communications, Computer and Intelligence (C4I)  
Tactical Operations Center (TOC) Enhanced Operator/Maintainer
- 14T Patriot Launching Station Enhanced Operator/Maintainer
- 27X Patriot System Repairer
- 31F Network Switching Systems Operator/Maintainer
- 35Y Integrated Family of Test Equipment (IFTE) Operator/Maintainer
- 52E Prime Power Production Specialist
- 14E Patriot Missile Air Defense Artillery Officer
- 140A Command and Control Systems Technician
- 140E Patriot Systems Technician
- 916A High-to-Medium Altitude Air Defense (HIMAD) DS/GS Maintenance Technician

### 3. ASSUMPTIONS

The following assumptions apply to the THAAD training concept:

- The Department of the Army will provide the necessary resources, personnel, and equipment required to implement THAAD Programs of Instructions (POIs).
- The quality, aptitude, and skill requirements of the target audience will not be more stringent than the Patriot Missile System target audience will.
- There will be no increase in the total Army force structure to support the fielding of THAAD.
- THAAD New Equipment Training (NET) will be conducted by the prime contractor in support of THAAD development, testing and fielding.
- The THAAD system will be designed with Embedded Training (ET) subsystems that support all training categories.
- Operations and maintenance design of the THAAD system and Training Aids, Devices, Simulators, and Simulations (TADSS) will meet Human Factors Engineering (HFE) design criteria and requirements from Military Standard (MIL-STD)-1472 and MIL-H-46855, Human Engineering Requirements for Military Systems, Equipment, and Facilities.
- THAAD system associated TADSS will be provided to units concurrent with system fielding.

### 4. TRAINING CONSTRAINTS

The following constraints are envisioned to impact training of the THAAD system. The training constraints identified provide parameters for THAAD training.

- Training time has already been allocated for MOSs; 14E, 14J, 14T, 27X, 31F, 35Y, 52E, 14E (officer) 140A, 140E and 916A. Any course length change must be approved by TRADOC.
- The training equipment, components, and devices must be provided in sufficient quantities and within the appropriate time frames to support system fielding.
- Operations and maintenance design of THAAD system Training Aids, Devices, Simulators and Simulations (TADSS) will be IAW Human Engineering (HE) design criteria and requirements. Use of hazardous materials or exposure of personnel to health hazards shall be minimized or eliminated IAW AR 40-10. Personnel with potential exposure to hazardous materials will be trained on safe handling procedures IAW Occupational Safety and Health Agency (OSHA) CFR 29 Part 1910.1200, Hazard Communication. Training equipment will be analyzed to identify and eliminate hazards or reduce the associated risk to an acceptable risk level.
- Training for the THAAD system will be developed IAW TRADOC Regulation 350-70 Training Development Management, Processes, and Products, and within the framework of the Materiel Acquisition Process (DOD 5000.2-R). Training will be conducted on a continuing basis to support the THAAD MOSs.

- Existing training schools will be used whenever possible to support the THAAD system. Every attempt should be made to collocate schools for sharing of tactical equipment and training devices.
- Personnel resources required for THAAD training must come from DA resources.
- Required resources and facilities defined in the THAAD Operational Requirements Document (ORD) must be funded and/or provided by the Training and Doctrine Command (TRADOC)/THAAD Project Office.
- Training literature and publications must be provided in sufficient quantity and within required time frames by the prime contractor to support THAAD fielding. Implementation of training will be on a continuing basis to support the THAAD MOSs.

## **5. TRAINING CONCEPT (AC/RC)**

The training concept for Configuration #1 is to use Contractor Logistical Support (CLS). USAADASCH will monitor all training conducted to ensure DoD/TRADOC standards are met.

The training concept for the THAAD Configuration #2 objective system incorporates institutional training for initial MOS training, with new course development for enhanced operator/maintainer, repairer, staff and commander. Embedded raining (ET) capabilities and TADSS will be used extensively for institutional training and will be supplemented by use of tactical system hardware and software. THAAD system ET capabilities and TADSS will be the primary means for training enhanced operator/maintainers and crews to perform FO, EO, and organizational maintenance tasks at the institution. It will also be the primary means for teaching the system repairer at the institution. Institutional and unit sustainment training will require new training devices to support the THAAD system. These training devices will be realistic, high fidelity training devices for both institutional and unit sustainment training and replicate the system hardware, software, and operational functions. The THAAD ET capability will support enhanced operator/maintainer, commander, staff and repairer training for THAAD major end items.

The THAAD Combined Arms Training Strategy (CATS) will support the three (3) pillars of training: unit, institution, and self-development. CATS provides direction on how the unit trains and identifies the best mix of training resources to actually accomplish the training. CATS integrates Gunnery, Maneuver Exercises, and Soldier training, into battle-focused training plans. CATS provides leaders with a menu of training events and identifies resources for planning and training management. CATS is based on approved doctrine, is performance-oriented, and emphasizes hands-on practice in the skills required for soldiers and units to achieve and sustain proficiency on individual and collective tasks IAW the Mission Essential Task List (METL), Crew Drills, Mission Training Plan (MTP), and Soldier Training Products (STP). Sequentially and progressively, soldiers must demonstrate performance to standard before passing to the next level of training.

TRADOC schools will be provided a sufficient number of tactical systems, TADSS, and training materials developed by the materiel developer /contractor to establish a training base for training replacement personnel. Tactical equipment with ET, TADSS, Training Support Packages (TSPs) and New Equipment Training Teams (NETT) will be the principle means of collective and sustainment training at the unit. The unit will be provided exportable training products that are timely, complete, accurate, effective and easy to implement.

THAAD may require new Military Occupational Specialty (MOS) courses. It is envisioned that MOS producing schools providing training to non ADA personnel listed in the target audience description (see paragraph 2 and Annex A) will in some cases be impacted by the fielding of THAAD systems. The impacts are yet to be determined. The THAAD training will be developed using: the Standard Army Training System (SATS); Systems Approach to Training (SAT); Training Support Packages (TSP); Training Aids, Devices, Simulators, and Simulations (TADSS); Standard Army After Action Review System (STAARS) and the Army Training Digital Library (ATDL). This concept reflects the United States Army, TRADOC, and USAADASCH, USAOMMCS, USAENGSC and USASIGSCH training strategy.

The materiel and training developer will ensure that the training programs for the THAAD system developed by contractor personnel will be IAW TRADOC Regulation 350-70, Training Development Management, Processes, and Products, and within the framework of the Materiel Acquisition Process, DOD 5000.2R. The materiel developer, with active participation by TRADOC user representatives, will require the contractor to develop the training system. The training system will include, but is not limited to, individual and collective task and skill analysis, the embedded training system, Instructor and Key Personnel Training, Staff Planners Course, TADSS and New Equipment Training (NET). The training subsystem will support NET and unit sustainment training. It will be developed using the Systems Approach to Training (SAT) process recognizing the impacts across the DTLOMS spectrum and applying the concepts of Distance Learning (DL) as detailed in TRADOC Reg 350-70. This training subsystem will be developed concurrently with the system hardware and software, validated during testing, and will be in place when system fielding begins. Service schools other than USAADASCH and USAOMMCS will be affected by the fielding of THAAD system. Training products and devices will be used in an environment typically found in both the institution and units. THAAD system Officers, Warrant Officers, Enhanced Operator/Maintainers and Repairers courses will utilize these devices and products.

(a) **Doctrine.** Doctrine is rapidly changing to accommodate the future power-projection Army of Force XXI. The Army will be an information age force that will leverage technology to solve training challenges. This will include an embedded capability to rehearse complex missions and “wargame” courses of action. This embedded training capability will be able to access the latest digitized Army doctrine through the internet to maximize training effectiveness.

(b) **Training.** Training in the information age force will be complex and varied. It will include mission rehearsal capabilities that will integrate the varied elements of the digitized systems on the battlefield. With the fielding of greater numbers of embedded training systems and the ever-increasing availability of distance learning, soldiers will have greater access to their training tools. This will maximize soldier proficiency by transforming the work environment into a training environment.

(c) **Leader development.** Leader development instruction will prepare Army leaders to understand and exploit the rapid growth in technological advances that will allow system developers to incorporate embedded training. It will prepare leaders to plan and execute creative solutions to training challenges without the constraints from availability of TADSS or training areas.

(d) **Organizations.** As with the Army as a whole, embedded training and the technological advances that will accompany it will create opportunities for change in the current training-related organizations. Directorates and staffs that are built around a paper-based, separate training device strategy will be replaced by smaller organizations that will support the electronic flow of training capabilities and training information. Organizations that are involved with fielding separate and stand-alone training devices will gradually be able to focus their scarce resources such as people, time and funding to other missions. The organizations involved with fielding operational systems will take on greater responsibility for the training on those systems.

(e) **Materiel.** The training developer for each system will be the Army's representative that initially identifies embedded training requirements during the concept development phase of the Life Cycle System Management Model (LCSMM).

-- **System Development.** An embedded training capability that can be deployed with operational systems will allow the Army to reduce development, procurement and logistical support costs and eliminate overlapping requirements while increasing training capabilities and availability. Army Program Executive Offices (PEO), Program Managers and Project Managers (PM) will plan, program and resource materiel training solutions as part of the operational system for which they are responsible. This will require system developers to include the training time in calculating the system's reliability and maintainability (R&M). The end result will be that there will be no disconnect between the development of a system and the development of training capability for that system.

-- **Information Architecture.** To fully exploit the capabilities of embedded training, the Army will continue to aggressively pursue the goal of establishing an overarching Common Operating Environment (COE) to allow sustaining base automation, C<sup>3</sup>I systems, weapons systems, and models and simulations to interoperate in an on-demand synthetic training environment. To ensure the information architecture grows with its support requirements, PEOs and PMs will consider data bandwidth requirements when deciding on which method of ET to use with their system.

(f) **Soldiers.** An embedded training capability will allow soldiers, crews, commanders and staffs at all levels to sustain their combat skills any time their operational equipment is available. When combined with a STOW capability, soldiers will be able to link with soldiers using systems at different locations for training, mission rehearsal and course of action development. All this will depend heavily on the ability of soldiers and leaders to quickly acquire skills in many technology-oriented fields, including networking.

The training of soldiers, leaders, and units should be tough, realistic, and intellectually and physically challenging. It should excite, motivate, and develop competence and confidence and capitalize on new and evolving technologies by using an array of ET and TADSS to provide the most effective (promotes learning) and efficient (low cost) training capabilities. Actual equipment is used to validate the transfer of learning from TADSS.

## **6. TRAINING STRATEGY (AC/RC)**

New Equipment Training (NET) is the responsibility of the materiel developer who will contract NET to support THAAD system development, testing, and fielding. DTT portion of NET will be conducted by appropriate TRADOC schools.

### **a. NET Strategy.**

The Materiel Developer (MATDEV) will ensure NET materiel is developed IAW AR 350-35 Army Modernization Training. The training development process will be IAW TRADOC Regulation 350-70, Training Development Management, Processes and Products, TRADOC PAM 351-13 C1, and SAT Analysis. NET will transfer the THAAD equipment information and technical skills used in individual and collective tasks from the MATDEV/contractor to the user/trainer.

NET development will, at a minimum meet the following requirements: a NET Training Support Package (TSP) that includes diverse types of training media (App H, TRADOC Reg 350-70) in addition

to POIs, lesson plans, technical manuals, student and instructor guides, software manuals and a course management plan. The multimedia TSP will include a tutorial “how to” module that permits identification of soldier training proficiency by module.

The New Equipment Training Plan (NETP) will include a multimedia Doctrine and Tactics Training (DTT) that with other products, will support both NET and sustainment training. The THAAD system equipment and training subsystem with all its devices and products must be available for NET. NET is managed by the MATDEV and monitored by USAADASCH, incrementally by battery, for an entire battalion. Multiple iterations of NET courses will be required.

NET will include both individual and DTT and NET will be conducted in two (2) phases:

- Phase I training will include Instructor and Key Personnel (I&KP), Staff Planners and Technical Training Courses which will be prepared and taught by the system prime contractor(s).
- Phase II training will be conducted as part of the materiel fielding process by New Equipment Training Team(s) at the unit(s) location. Contractor conducted training courses will include the required manuals, training materials, POIs, and lesson plans required to conduct the training.

The following NET courses are required as a minimum:

#### **(1) Staff Planners Course**

A program oriented staff planner's course to familiarize subject matter experts (SMEs), staff officers, officers, and senior NCOs at all levels in the management and deployment of the THAAD system. The course describes the mission, system components, operational and functional capabilities, maintenance concept and the THAAD training program.

#### **(2) Technical Training Courses**

These courses provide training on the operations, maintenance, repair and technical aspects of the THAAD system.

**(a) Enhanced Fire Control Operator/Maintainer Course.** This course will provide training to ADA personnel in operations and maintenance of the following subsystems: THAAD Tactical Operations Station (TOS), Launch Control Station (LCS), System Support Group (SSG), and Radar. It will cover all major and associated components and the operational characteristics and capabilities of each. The course will teach all appropriate operational procedures in the following areas:

- deployment,
- march order,
- emplacement,
- defense planning
- engagement operations,
- force operations,

- system initialization,
- system integration,
- fault diagnostics,
- removal and replacement of Line Replaceable Units (LRUs),
- PMCS,
- Battle Damage Assessment and Repair (BDAR),
- and pre/post processing.

**(b) Enhanced Launching Section Operator/Maintainer Course.** This course will provide training to ADA personnel in operations and maintenance of the following subsystems: Launcher, Missile/Canister and Missile Round Pallet (MRP). It will cover all major and associated components and the operational characteristics and capabilities of each. The course will teach all appropriate operational procedures in the following areas:

- deployment,
- march order,
- emplacement,
- missile reload,
- system initialization,
- system integration,
- fault diagnostics,
- removal and replacement of Line Replaceable Units (LRUs),
- PMCS,
- and Battle Damage Assessment and Repair (BDAR).

**(c) Repairer Course.** The 27X Repairer course will be provided to train personnel in the repair of the THAAD system. The following subsystem will be covered:

- System Maintenance/Repair

Other training areas to be covered are maintenance procedures, tools and test equipment, diagnostic and malfunction/fault isolation to LRU level and replacement and post repair procedures for all major components.

Course requirements for 31F Network Switching Systems Operator/Maintainer and 52E Prime Power Production Specialist have not been identified.

**(d) Instructor and Key Personnel (I&KP) Training.** TRADOC instructors, training developers, and other key personnel necessary for the training base will be trained. The course content will focus on those skills necessary to develop institutional training and sustainment training programs for replacement personnel. The I&KP training package will be validated prior to the first presentation of I&KP training. The validation by USAADASCH, USAENGSC, USASIGSCH, and USAOMMCS will be based on performance testing of a representative sample of the target audience and evaluating the performance of the replacement personnel. I&KP will be stabilized in the institution to ensure availability of qualified personnel to establish the training base. Stabilization of military instructors must receive careful consideration in terms of impact on the training base, career development of the affected Officers, Warrant Officers (WOs), Noncommissioned Officers (NCOs), and the force structure.

### **(3) New Materiel Information Briefing Team (NMIBT)**

The NMIBT consists of a training package and/or briefing team and is the material developer /Program Manager (PM) responsibility. This team will provide the gaining commanders and staffs with all essential information needed to facilitate the fielding of the THAAD system.

### **(4) New Equipment Training Team (NETT)**

The THAAD Project Office (TPO) will plan, fund, organize and field the NETT effort. The NETT effort is specified in AR 350-35, Army Modernization Training. TPO will determine the composition of the NETT. The NETT package will be validated by TPO. The USAADASCH will develop and present THAAD Doctrine, Tactics, Techniques, and Procedures (DTTP) training for NET. The training will support the requirements of the NET strategy, and the POI will reflect the most current DTTP documentation. DTT policy requires that the DTT precedes the NETT IAW AR 350-35

Reserve Component training will be accomplished IAW the USAADASCH Reserve Component (RC) Training Strategy as required. The ENGSC, SIGSCH and OMMCS will address RC training as required.

### **b. Institutional Training Strategy (WARRIOR).**

The institutional training strategy for the objective system will conform to TRADOC training directives. The THAAD system training base will use state-of-the-art capabilities and media to provide effectiveness and efficiencies in cost and time. Media selected for implementation will be based on in-depth analysis of operational needs.

The institutional training is envisioned to support development of possible new or existing MOSs and be conducted at service schools. Embedded Training (ET) capabilities and TADSS will be used extensively for institutional training and will be supplemented by use of tactical system hardware and software. The THAAD training base will use state-of-the-art capabilities and media to provide efficiencies in cost and time. Media selected for implementation will be based on analysis of operational needs. The system will be capable of on-line and off-line generation of tactical scenarios to the institution, unit, and embedded trainers without interrupting tactical operations. The system will be capable of providing simulated faults to support enhanced operator/maintainer and repairer unit sustainment training. The system will allow instructor input during the development/testing of tactical scenarios and simulated equipment faults used during training.

Institutional training for the THAAD system will be based on results of System MANPRINT Management Plan (SMMP) Issues and Concerns, Early Comparability Analysis (ECA), Training Impact Analysis (TIA), Cost and Training Effectiveness Analysis (CTEA), and Initial Operational Test and Evaluation (IOTE). Appropriate existing or new officer, warrant officer, noncommissioned officer, and enlisted courses will be modified or created to incorporate necessary instruction on doctrine, tactics, techniques and procedures, logistics, operations, and maintenance subject matter. DTT will be taught to THAAD personnel and address the need for battle drills and situational training exercises which embody the “how to fight” doctrine. Envisioned institutional training courses that will be affected by the fielding of THAAD system are:

- **Advanced Individual Training (AIT).** USAADASCH , USAOMMCS, USASIGSCH and USAENGSC institutional training requirements are TBD.
- **Basic Noncommissioned Officer Course (BNCOC).** USAADASCH and USAOMMCS will perform needs analyses to determine to what degree THAAD system training will be integrated into the BNCOC branch/specialty portion. USAADASCH and USAOMMCS BNCOC institutional training requirements are TBD.
- **Advanced Noncommissioned Officer Course (ANCOC).** Training requirements of all common core and branch/specialties will be assessed to ensure that ANCOC attendees receive appropriate instruction. USAADASCH and USAOMMCS ANCOC institutional training requirements are TBD.
- **Warrant Officer Basic Course (WOBC).** USAADASCH and USAOMMCS will perform a need assessment to determine to what degree THAAD system training will be integrated into the WOTCC branch/specialty portion to ensure that attendees of the WOTCC receive appropriate instruction. USAADASCH and USAOMMCS WOTCC institutional training requirements are TBD.
- **Warrant Officer Advanced Course (WOAC).** USAADASCH and USAOMMCS will perform a need assessment to determine to what degree THAAD system training will be integrated into the SWOTCC branch/specialty portion to ensure that attendees of the SWOAC receive appropriate instruction. USAADASCH and USAOMMCS SWOAC institutional training requirements are TBD.
- **Officer Basic Course (OBC) THAAD system track.** USAADASCH will perform need assessment to determine to what degree THAAD system instruction will be integrated into the branch/specialty portion of OBC. USAADASCH OBC institutional training requirements are TBD.
- **Captains Career Course (CCC) THAAD system.** USAADASCH will perform need assessment to determine to what degree THAAD system instruction will be integrated into the branch/specialty portion of CCC. USAADASCH CCC institutional training requirements are TBD.
- **Pre-Command Course (PCC).** USAADASCH will perform need assessment to determine to what degree THAAD system instruction will be integrated into the Pre-Command Course. USAADASCH Pre-Command training requirements are TBD.
- **Reclassification training courses.** THAAD system reclassification training will be conducted as required. USAADASCH , USAOMMCS, USASIGSCH and USAENGSC reclassification training requirements are TBD.

### **c. Unit Sustainment Training Strategy (WARFIGHTER).**

The initial effort to identify the unit training concept for collective and sustainment training will be based on results of analyses, developmental testing and lessons learned. Analyses of this data will be used to determine the required amount of collective training necessary for unit proficiency and certification TADSS and ET capabilities will be used extensively in institutional training and will be supplemented by use of tactical system hardware and software. Sustainment training also will be evaluated via training exercises on the THAAD system hardware. The unit will conduct collective training and unit qualification following NET. To assist in this training, all components of the training system will be available for use, to include the multimedia TSP left with the unit following NET, system ET, and TADSS delivered with the system. NET products left with units will be used to support sustainment training. Units participating in training will develop unit plans based on FM 25-100, FM 25-101, STPs, Crew Drills, and MTPs to support CATS requirements. This training prepares ADA soldiers, leaders, and units to fight as members of the combined arms team and prepares them to execute the combined arms mission without additional training or lengthy training adjustment periods.

The THAAD system will interoperate with C<sup>4</sup>I systems and simulators and simulation systems to train the unit. The THAAD system will be linked to a networked training capability (functional embedded training) with Army Battle Command Systems (ABCS) devices, to include the Global Command and Control System-Army (GCCS-A) and other C<sup>4</sup>I devices as appropriate. It should also link into the Family of Simulations (FAMSIM) training systems such as the WARSIM 2000 for training, rehearsals and determining courses of action. Every effort should be made to leverage Synthetic Environment (SE) Core technologies to train and execute mission rehearsals in the SE and Synthetic Theater of War (STOW) environments. The ET will allow enhanced operator/maintainers, commanders and staff to maintain proficiency in tactical decision-making procedures and console operation procedures through air defense battle and Distributed Interactive Simulation (DIS) networks and will be High Level Architecture (HLA) compliant. The ET must be interoperable through the STOW architecture to link the live, virtual and constructive pieces of the training arena. The unit will conduct collective training and unit qualification following NET.

### **d. Training Certification and Test**

The Training Test Certification Plan (TTCP) defines who develops training programs and products that support test unit and soldier training. It describes the types of training, what products support the training, and the standards used to certify the training. It defines the validation process for training products prior to the THAAD EMD testing. The unit certifies individual prerequisite soldier skills and 6<sup>th</sup> Brigade certifies collective training is completed prior to test. In addition, the TPO certifies the individual soldier training prior to test. The USAADASCH Directorate of Tactics, Training and Doctrine (DOTTD) validates training products and provides test unit DTT training. DOTTD certifies test unit DTT and provides the Operational Test Readiness Statement (OTRS) for training. The Training Data Requirements are key training issues that data collectors must evaluate during the test.

The development of the Training Test Support Package (TTSP) will involve the cooperative training development efforts of the prime contractor, USAADASCH, USAOMMCS, the test unit, and other impacted proponent schools.

## 7. TRAINING PRODUCTS

Institutional and unit/sustainment training will require ET and TADSS to support the THAAD system. The ET and TADSS will be realistic and replicate the system's hardware, software, and operational functions.

Extensive ET and TADSS, will be used for sustainment training during training exercises. Sustainment training will also be conducted via training exercises on THAAD system hardware. Further augmentation of sustainment training will occur through the use of an embedded Troop Proficiency Trainer (TPT) capability in the system software. The TPT will allow operators to maintain proficiency in tactical decision-making procedures, console and major end item operations through air defense battle and Distributed Interactive Simulation (DIS) networks. The ET must be interoperable through the High Level Architecture (HLA) and the Synthetic Theater of War (STOW) architecture to link the live, virtual and constructive pieces of the training.

### a. ET/TADSS.

The training strategy is to teach **institutional and unit training** using ET/TADSS combined with standard Programs of Instruction (POIs). Individual and collective tasks will be taught using the institutional and/or unit ET/TADSS.

Embedded training is the ability to train a task (s) using the BM/C<sup>3</sup>I, radar and launcher. It will not adversely impact the operational capabilities of the system. Embedded training requirements must be identified as an essential operational capability of the system in the Concept Exploration phase of development. It includes embedded user assistance (help); embedded simulation, emulation or stimulation capability; embedded connections between the prime system and the training system; and training instrumentation. Embedded training includes system design that allows dual use of communication and instrumentation capability for training and tactical use and the use of system operating controls with appended/embedded training simulations. To the greatest extent possible, it must be able to use operational data stored in the prime system as well as upload data specific to the training event. It can also provide a mechanism for interactive access, feedback, storage and dissemination of lessons learned as they occur.

### (1) ET Categories

There are four embedded training categories based on the level of training to be fulfilled. They are aligned along the training spectrum from individual to collective tasks for the BM/C<sup>3</sup>I, radar and launcher.

Category A: Individual/Operator. The objective of Category A is to train and sustain individual operator and maintenance task skills.

Category B: Crew/Team. Category B's objective is to train and sustain combat ready crews and teams. This category builds on individual skills acquired from Category A.

Category C: Functional. The objective of Category C is to train and sustain commanders, staffs, and crews/teams within each functional area to be utilized within their operational role.

Category D: Force Level/Combined Arms and Battle Staff. Category D's objective is to train and sustain combat ready commanders and battle staffs utilizing the operational system in its operational role.

## (2) ET Methods

There are three methods for building embedded training technology into systems.

(a) **Fully embedded.** All embedded training features are built into the primary system components. In this case, the embedded capability is distributed with the prime system on a one-for-one basis. The requirement must be stated as an essential operational characteristic of the system by the combat and training developers. Embedded training capabilities impact the system's concept formulation package (CFP) and cost assessment. In addition, ET must be included in the operations and mission profile used to develop Reliability and Maintainability (R&M) requirements.

(b) **Appended.** The embedded training system is installed or attached to the primary system components when needed, and removed when not needed. It is likely to require that the operational system have permanent, designed-in components such as sensors, power source adapters, connectors, or mounting brackets.

(c) **Umbilical.** Like appended, umbilical is attached to the prime system components when needed, and removed when not needed. It involves additional physical connections to external components such as computers, instructor/trainer consoles, Local Area Networks (LAN), and long-haul digital circuits. It often connects many systems, as in the use of Army Battle Command Systems (ABCS) used as the interface with constructive simulations.

## (3) Embedding Training in Operational Systems.

Embedded training can be implemented in four broad categories of systems. They are Sustaining Base and Office Automation, C<sup>3</sup>I, Weapons Systems, and Models & Simulations. Each category is a COE domain and will be interoperable with the other domains as part of the Defense Information Infrastructure (DII) COE.

(a) **Sustaining Base and Office Automation.** In this case, embedded training is primarily aimed at individual training. The user will be able to use fully embedded coaches and performance support systems (PSS) for training during operations. He can also use appended training using temporarily loaded or by temporarily running a training capability from a CD ROM. The user can also train using the system in an umbilical mode when training on-line with another networked user, or when accessing training information through the Army Training Digital Library when it is fully functional.

(b) **C<sup>3</sup>I and Support Systems.** The ABCS system of systems is one area that can take advantage of embedded training capabilities. By designing system software that uses artificial intelligence to coach users in correct ways or even better ways to use the system, the individual embedded training can greatly reduce initial and sustainment training requirements. For team, functional crew/staff, and force level commanders and staffs, the C<sup>3</sup>I and support systems can train in a combination of appended and umbilical training with the ABCS systems linked to each other on a network and to a scaleable future simulation through the synthetic environment (SE).

(c) **Weapons Systems.** Embedded training in weapons systems will consist primarily of individual and crew/team training. This includes visual and audio cues that will shorten the initial and sustainment training time required. It also includes embedded simulators that can train some or most of the critical tasks for that weapon system. In some cases it will also include embedded links to the other domains such as other combined arms systems having an embedded simulation capability.

(d) **Models and Simulations.** Models and simulations support the training capabilities of the soldiers using systems from the other three domains. There are primarily two ways they will accomplish this, in order of preference:

-- Embedded Simulations. In many sustaining base, C<sup>3</sup>I and weapon systems, rapid leaps in technological capabilities will allow system developers to embed some simulator capability into weapons systems and to embed some simulation capability in sustaining base and C<sup>3</sup>I systems to allow students and operational staffs to train and rehearse locally.

-- Stand-alone Simulations. Future simulations will be accessible on demand by commanders who want to train and/or rehearse their units using sustaining base automation, C<sup>3</sup>I systems, or weapons systems linked through the synthetic environment. This can be simply on a single post or with units spread across thousands of miles.

The training devices planned for THAAD systems are:

- **Institutional Conduct of Fire Trainer (ICOFT).** The ICOFT provides operations and maintenance training at the institution to develop basic operator/maintainer skills.
- **Institutional Maintenance Trainer (IMT).** The IMT provides institutional maintenance training for the 27X repairer utilizing exercises in system diagnostics and repair.
- **Missile Round Trainer/Missile Round Pallet Trainer (MRT/MRPT).** The MRT/MRPT provides the necessary institutional and sustainment training capability for missile round handling, safety and reload procedures that simulate actual missile round/missile round pallet characteristics.
- **Explosive Ordnance Disposal (EOD) Trainers.** The EOD Trainers are the Classroom EOD System Trainer (CEST) and the Practical EOD System Trainer (PEST) which support institutional training. These devices permit EOD personnel to recognize inherent hazards associated with the components of the missile and practice EOD procedures.
- **March Order and Emplacement Trainer (MOET).** The March Order and Emplacement Trainer will be used to train hands-on march order, road march and emplacement procedures for the radar.
- **Embedded Troop Proficiency Trainer (TPT).** The embedded TPT (software) simulates operational tactical battlefield information and provides unit sustainment training to support both EO, FO, and maintenance.

The THAAD enhanced operator/maintainers, through a combination of individual and collective tasks are trained to the skill levels required to operate and maintain the THAAD system. This will include using DL, DIS and STOW capabilities. The training standards for the Standards in Training Commission (STRAC) will be outlined in DA PAM 350-38 Standards in Weapons Training when developed. THAAD training device programmed growth will allow interaction with the Air Defense Combined Arms Tactical Trainer (ADCATT) and will provide the training capability to perform interface and inter-operability functions. Integrated training with other joint and combined arms units training will provide continuity on the battlefield for situational awareness and will support Joint, Army and Air Defense doctrine.

### **(1) Institution TADSS/ET Requirements**

The **institutional training** devices for the THAAD system are listed below. The devices required to support THAAD fielding are described in detail in the THAAD ORD and Annex I of this document.

- Institutional Conduct of Fire Trainer (ICOFT).
- Institutional Maintenance Trainer (IMT).
- Missile Round Trainer (MRT).
- Missile Round Pallet Trainer (MRPT).
- Explosive Ordnance Disposal (EOD) Trainers.
- Radar March Order and Emplacement Trainer (MOET).
- Embedded Troop Proficiency Trainer (TPT)

### **(2) Unit TADSS/ET Requirements**

Unit TADSS requirements envisioned for THAAD system **unit training** support are:

- Embedded Troop Proficiency Trainer (TPT).
- Missile Round Trainer (MRT).
- Missile Round Pallet Trainer (MRPT).
- March Order and Emplacement Trainer (MOET).

### **(3) NET TADSS/ET Requirements**

The NET training device requirement is to have ET and TADSS available during NET training. See the appropriate institutional and unit paragraphs in Annex I.

#### **b. Multimedia Products.**

Typical multimedia products that will be used to support the THAAD system training are:

- Computer-Assisted Instruction (CAI)
- Computer-Based Training (CBT)
- Web-Based Training (WBT)
- Compact Disk-Read Only Memory (CD-ROM)
- Interactive Electronic Technical Manuals (IETM)

### **c. Manuals.**

The fielding of the THAAD system will require the development of training manuals that should be in digitized formats and be capable of archiving in the Army Training Digital Library (ATDL). Products include but are not limited to the following Training Products:

- Army Training and Evaluation Programs (ARTEPs)/Mission Training Plan (MTP)/ Crew Drills

ARTEP 44-695-30-MTP

ARTEP 44-695-10-Radar Drills

ARTEP 44-695-11-Launcher Drills

ARTEP 44-695-12-BM/C<sup>3</sup>I

- Soldier's Manual (SM)/Trainers Guide (TG)/Soldier Training Publication (STP)

STP 44-14E14-SM-TG THAAD Fire Control Enhanced Operator/Maintainer

STP 44-14T14-SM-TG THAAD Launcher Enhanced Operator/Maintainer

- FM 44-91, THAAD Battery and Battalion Operations
- Program of Instructions (POIs)      To Be Published (TBP)

### **d. System Hardware/Software.**

THAAD equipment hardware, software, and components to support institutional training will be based on a need assessment conducted by USAADASCH, USAENGSCCH, USASIGSCH, and USAOMMCS. The THAAD ORD and CTEA provide detailed information on institution equipment requirements to include the numbers and types of TADSS and hardware to be allocated for use in the service schools. Further analysis is required to determine software requirements.

## **8. TRAINING SUPPORT**

### **a. Distance Learning (DL).**

THAAD will use state-of-the-art distance learning capabilities (IAW TRADOC Reg 350-70). DL provides the capability to enhance and sustain Army readiness by delivering standardized training to soldiers and units at the right place and time using multiple delivery means and techniques. This is accomplished by leveraging technology and training design efficiencies to provide more cost effective and efficient training. It is envisioned that THAAD will use DL in training all systems operations. Training sites, connectivity, software, hardware, and Internet access capabilities must be considered. The most commonly used DL delivery techniques are:

- Correspondence Courses—Self-paced training materials that can be used for individual and collective training.
- Computer Based Instruction—Refers to course materials presented and controlled by a computer and which use multiple requirements for student responses as a primary means of facilitating learning. It is essentially individualized self-paced or group interactive instruction combined with multi-media presentations.

- Video Tele-training—provides the means to distribute training to any number of students simultaneously. Different methods of instruction may be used to present the training.
- Simulation—This is any representation or imitation of reality (abstract) and includes simulating part of a system, the operation of a system, and the environment in which the system will operate.
- Distributed Interactive Simulation—DIS is linking all types of unit training into the same network permitting wide-scale integration of various simulation systems and live training without regard to geographic limitations.
- Embedded Training Systems—ET provides the capability to train a soldier to standard using embedded training capabilities contained in operational equipment. The goal is that ET will be interoperable within a common operating environment linking geographically separated units in live, virtual, and constructive simulation. It provides users assistance by embedded simulation, emulation or simulation capability, embedded connections between the prime system and the training system and training instrumentation.

#### **b. Facilities.**

Existing training facilities at the schools will be used wherever possible to support the THAAD system. The use of existing facilities could take advantage of infrastructure and possibly avoid new construction costs. Other required resources for facilities defined in the THAAD ORD and CTEA must be funded and/or provided by TRADOC/THAAD Project Office. Every attempt to collocate schools near the THAAD Maintenance facility should be made for sharing tactical equipment, training devices and to accommodate maintenance/repair of equipment. THAAD classroom facilities must accommodate Classroom XXI requirements. The training facility to house the training devices and classrooms for THAAD training must conform to the THAAD training strategy. Ranges and maneuver areas must be sufficient in size to accommodate THAAD system deployment, operations and engagements.

#### **c. Ammunition.**

The THAAD missile system will require targets for live fire exercises. Frequency of live fire exercises is TBD. The quantity and type of training ammunition is TBD. The THAAD system will use targets that are cost efficient and training effective. The targets should provide a realistic representation of the existing TBM and projected threats; duplicate or replicate the time, movement, countermeasures, signatures (including number), exposure times, hit/kill indications; and provide a feedback/performance scoring capability. Targets should be environmentally nondestructive and support live missile firings. If using targets is found not cost effective for THAADs then simulated firing and engagement capabilities will be used.

#### **d. Other.**

The need to conduct training with or at the Army's Combat Training Center (CTC) or Joint Readiness Training Center (JRTC) is TBD. Every effort should be made to exercise THAAD system capabilities in a simulated and/or live environment.

## **9. POST-FIELDING TRAINING EFFECTIVENESS ANALYSIS (PFTEA)**

A PFTEA will be conducted within eighteen to twenty-four (18-24) months of the THAAD system Initial Operational Capability (IOC) to assess the effectiveness and efficiency of the total system training program after the completion of NET training, resources permitting.

## ANNEX A

### ***TARGET AUDIENCE THAAD SYSTEM***

COURSE MATRIX				
FUNCTIONAL AND PROFESSIONAL	<b>ADASCH</b>	<b>OMMCS</b>	<b>SIGSCH</b>	<b>ENGSCCH</b>
14E (OFF)	X			
140A (WO)	X			
140E (WO)	X			
916A (WO)		X		
14E	X			
14J	X			
14T	X			
27X		X		
31F			X	
35Y		X		
52E				X

## ANNEX B

### Combined Arms Training Strategy (CATS) Individual Training Strategies (Warrior)

#### 1. COURSE: 2-44-C20 (14E) ADA Officer Basic Course (OBC) (THAAD TRACK)

TRAINING STRATEGY: This course prepares newly commissioned officers for their first duty assignment in an ADA unit. Training emphasizes leadership skills and the basic administrative and tactical skills officers will need to perform successfully in their assignments. OBC overall objective is to train officers to be platoon leaders, to accomplish the ADA mission, and to survive on the battlefield. Training includes a soldier environment, common core training in military writing, military history, map reading, logistics, combined arms, and NBC instruction. Branch-specific instruction will address topics pertaining to how to fight ADA systems with the maneuver force at the ADA platoon level. During OBC, the student will attend the Patriot/THAAD weapon qualifications track (14E). OBC is conducted in both peacetime and mobilization environments. Sustainment training will be accomplished through the use of system embedded training. Course length is estimated to be nine (9) weeks.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	7	10	12	18

TRAS DOCUMENT:

Individual Training Plan (ITP)	4 <sup>th</sup> QTR FY02
Course Administrative Data (CAD)	4 <sup>th</sup> QTR FY04
Program of Instruction (POI)	2 <sup>nd</sup> QTR FY06

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on experience learned from THAAD PDRR.

2. COURSE: 4F-140A, Command and Control System Integrator Warrant Officer Technical/Tactical

TRAINING STRATEGY: This course will certify WO candidates or reclassified WOs in a related ADA operator/maintenance MOS. A revision of the course length is in compliance with the Warrant Officer Training System (WOTS) directive for the establishment of a separate POI for each proponent WO MOS. Training for the above course is designed to teach required skills and knowledge pertinent to the operation and joint service integration of Air and Missile Defense Planning Control System (AMDPCS) and their associated equipment within the integrated systems. Course length is nineteen weeks (19) and two (2) days.

Reinforcement and sustainment training will be accomplished for the WO through system embedded training to provide the principles and functional theory of operations and integration, both vertically and horizontally, of the AMDPCS to Army and joint services. THAAD missile system training is conducted in both peacetime and mobilization environments.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	1	2	2	2

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY03  
CAD 3<sup>rd</sup> QTR FY05  
POI 1<sup>st</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

TBD

3. COURSE: 4F-140E, THAAD Systems Technician Warrant Officer Basic.

TRAINING STRATEGY: This course will certify WO candidates or reclassified WOs in a related ADA maintenance MOS as Patriot/THAAD missile system technicians. A revision of the course length is in compliance with the Warrant Officer Training System (WOTS) directive for the establishment of a separate POI for each proponent WO MOS. Training for the above course is designed to teach required skills and knowledge pertinent to the operation and unit maintenance of the THAAD system. Course length is estimated to be twenty-seven (27) weeks.

Reinforcement and sustainment training will be accomplished for the ADA WO through system embedded training. THAAD missile system training is conducted in both peacetime and mobilization environments.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	1	2	3	3

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY03  
CAD 3<sup>rd</sup> QTR FY05  
POI 1<sup>st</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on THAAD PDRR lessons learned.

4. COURSE: 916A, High-to-Medium Altitude Air Defense (HIMAD) DS/GS Maintenance Technician.

TRAINING STRATEGY: This course will certify WO candidates or reclassified WOs in a related ADA maintenance MOS as Patriot/THAAD missile system technicians. A revision of the course length is in compliance with the Warrant Officer Training System (WOTS) directive for the establishment of a separate POI for each proponent WO MOS. Training for the above course is designed to teach required skills and knowledge pertinent to the operation and unit maintenance of the THAAD system. Course length is TBD.

Reinforcement and sustainment training will be accomplished for the ADA WO through system embedded training. THAAD missile system training is conducted in both peacetime and mobilization environments.

LOCATION: REDSTONE ARSENAL, ALABAMA

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	1	2	3	3

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY03  
CAD 3<sup>rd</sup> QTR FY05  
POI 3<sup>rd</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on THAAD PDRR lessons learned.

5. COURSE: 043-14E10, THAAD Fire Control Enhanced Operator/Maintainer

TRAINING STRATEGY FOR AIT: This course will qualify enlisted personnel as Patriot/THAAD Fire Control Enhanced Operator/Maintainer and Patriot/THAAD system evaluator assistants by providing knowledge of the operation for the Patriot/THAAD air defense missile system. Course length is estimated at twenty-one (21) weeks.

a. Training for MOS 14E is designed and structured to provide the soldier with THAAD specific and professional skills, knowledge and principles. THAAD specific training will include all critical tasks associated with the operation and employment of the THAAD missile system to include remove and replace and battle damage assessment and repair.

b. Professional development training will provide the 14E NCO with the leadership skills necessary to train, supervise and lead subordinate personnel. Paramount in all USAADASCH instructional efforts is to train an ADA soldier to complete the assigned mission and survive in a battlefield environment.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	2	2
STUDENT LOAD/YR	7	14	20	26

TRAS DOCUMENT:

ITP 4<sup>th</sup> QTR FY01  
CAD 4<sup>th</sup> QTR FY03  
POI 2<sup>nd</sup> QTR FY05

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on THAAD PDRR lessons learned.

6. COURSE: 043-14J10, ADA C<sup>4</sup>I TOC Enhanced Operator/Maintainer

TRAINING STRATEGY: The course provides enlisted personnel the necessary electronic and digital training. Professional development training will provide the 14J NCO with the leadership skills necessary to train, supervise, and lead subordinate personnel. Paramount in all instructional efforts is to train an USAADASCH soldier to complete the assigned mission and survive in a battlefield environment. Course length is TBD. Course length is estimated at nineteen (19) weeks.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	3	2	2	2

TRAS DOCUMENT:

ITP 2<sup>nd</sup> QTR FY03  
CAD 2<sup>nd</sup> QTR FY05  
POI 2<sup>nd</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

TBD

7. COURSE: 043-14T10, THAAD Launching Station Enhanced Operator/Maintainer

TRAINING STRATEGY FOR AIT: The course will provide Initial Entry Training (IET) soldiers in the MOS skills required to perform duties of a Patriot/THAAD Launching Station Enhanced Operator/Maintainer. It will provide training in driving skills required for the THAAD launcher vehicle operations, hand signals, march order, and emplacement of THAAD system, related equipment operations, orientation and alignment procedures and preventive maintenance. Course length is estimated at eight (8) weeks.

Training for MOS 14T is designed and structured to provide the soldier with THAAD specific and professional skills, knowledge, and principles. THAAD specific training will include all critical tasks associated with the operation, operator unit maintenance, and employment of the THAAD missile system.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	2	3	3
STUDENT LOAD/YR	12	23	33	44

TRAS DOCUMENT:

ITP 4<sup>th</sup> QTR FY01  
CAD 4<sup>th</sup> QTR FY03  
POI 2<sup>nd</sup> QTR FY05

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on THAAD PDRR lessons learned.

8. COURSE: 043-27X 2/3/4, Patriot/THAAD System Repairer (Phase I)

TRAINING STRATEGY: The course provides enlisted personnel the necessary skills and knowledge of basic electronic and digital training required for follow-on training in the 27X system repairer course taught at Fort Bliss, TX. Course is nine (9) weeks and four (4) days. Professional development training will provide the 27X NCO with the leadership skills necessary to train, supervise and lead subordinate personnel. Paramount in all instructional efforts at USAOMMCS is to train an Ordnance soldier to complete the assigned mission and survive in a battlefield environment.

LOCATION: REDSTONE ARSENAL, ALABAMA

LESSON PLANS: N/A

COURSE START: 2<sup>nd</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	2	2
STUDENT LOAD/YR	10	10	16	16

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY00  
CAD 3<sup>rd</sup> QTR FY02  
POI 1<sup>st</sup> QTR FY05

TRAINING SUPPORT REQUIRED:

TBD

9. COURSE: 043-27X 2/3/4, Patriot/THAAD System Repairer (Phase II)

TRAINING STRATEGY: This course will provide the student with the necessary advanced training to schematic interpretation and the use of TMDE, which will enable them to troubleshoot and repair the electrical, electronic, electrical-mechanical, and mechanical subsystems for PATRIOT/THAAD missile system. Course length is estimated to be ten (10) weeks.

a. Successful completion of the PATRIOT System Repairer course, (course length is thirty-two (32) weeks and one (1) day) is a prerequisite for training as a THAAD system repairer.

b. Training is designed and structured to provide the soldier with THAAD specific and professional skills, knowledge and troubleshooting principles. THAAD specific training will include all critical tasks associated with the operation and repair of the THAAD missile system.

c. Professional development training will provide the 27X NCO with the leadership skills necessary to train, supervise and lead subordinate personnel. Paramount in all USAOMMCS instructional efforts is to train an Ordnance soldier to complete the assigned mission and survive in a battlefield environment.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 3<sup>rd</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	12	12	16	16

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY00  
CAD 3<sup>rd</sup> QTR FY02  
POI 1<sup>st</sup> QTR FY05

TRAINING SUPPORT REQUIRED:

TBD

10. COURSE: 043-31F10, Network Switching System Operator/Maintainer

TRAINING STRATEGY FOR AIT: The course will provide Initial Entry Training (IET) soldiers in the MOS skills required to perform duties of a Network Switching System Operator/Maintainer. It will provide training in skills required for the network switching system, supervision, installation, operations, and performance of system maintenance on large and small electronic switches; system control centers; node management facilities; associated multiplexing and Combat Net Radio Interface (CNRI) equipment; short range line of sight radio systems; Communications Security (COMSEC) devices; and other equipment associated with network switching operations. Training for MOS 31F is designed and structured to provide the soldier with Network Switching System specific and professional skills, knowledge, and principles.

Network Switching System specific training will include all critical tasks associated with the installation, initialization, operation, and performance of unit level and DS maintenance on electronic switching assemblages, systems, and ancillary communications equipment. Uses computers to perform system/network operations. Interprets BIT/BITE and error codes to correct system faults. Installs, operates, performs strapping, re-strapping, PMCS, unit level maintenance on COMSEC devices. Operates and performs Preventive Maintenance Checks and Services (PMCS) on assigned vehicles. Installs, operates, and performs PMCS on power generators. Course length is estimated to be 4 weeks.

LOCATION: FORT BLISS, TEXAS

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	2	2
STUDENT LOAD/YR	6	11	17	23

TRAS DOCUMENT:

ITP 4<sup>th</sup> QTR FY01  
 CAD 4<sup>th</sup> QTR FY03  
 POI 4<sup>th</sup> QTR FY05

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on PDRR lessons learned.

11. COURSE: 043-35Y10, Integrated Family of Test Equipment (IFTE) Operator/Maintainer

TRAINING STRATEGY FOR AIT: The course will provide Initial Entry Training (IET) soldiers in the MOS skills required to perform duties of an IFTE operator and maintainer. It will provide training in driving skills required for the IFTE operator and maintainer network to perform, and supervise unit, DS/GS level maintenance on the Base Shop Test Facility (BSTF), AN/TSM-191. Performs DS/GS level electronic maintenance, adjustments, test, fault isolation, and repairs of supported system Line Replaceable Units (LRU), Shop Replaceable Units (SRU), and Test Program Sets (TPS). Operates and performs Preventive Maintenance Checks and Services (PMCS) on assigned vehicles and power generators.

Training for MOS 35Y is designed and structured to provide the soldier with IFTE operator and maintainer specific and professional skills, knowledge, and principles. IFTE operator/maintainer specific training will include all critical tasks associated with the march order and emplacement of the BSTF, installation of supported weapon system test program sets, initialization of Unit Under Test (UUT) procedures, isolates UUT/BSTF printed circuit boards or component malfunctions. Replaces defective parts/components and performs UUT/BSTF alignments and adjustments. Performs BSTF PMCS and operational checks. Operates and performs PMCS on assigned vehicles and power generators. Course length is one hundred and eighty-nine (189) days in length.

LOCATION: FORT GORDON, GEORGIA

LESSON PLANS:

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	3	2	2	2

TRAS DOCUMENT:

ITP 2<sup>nd</sup> QTR FY03

CAD 2<sup>nd</sup> QTR FY05

POI 2<sup>nd</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

Training start date and length of training will be developed based on fielding lessons learned.

12. COURSE: 2-52E-10, (THAAD) Prime Power Production Specialist

TRAINING STRATEGY FOR AIT: The course will provide Initial Entry Training (IET) soldiers in the MOS skills required to perform duties of a prime power production specialist. The prime power production specialist supervises, operates, installs, and maintains electric power plants and associated auxiliary systems and equipment.

Training for MOS 52E is designed and structured to provide the soldier with electric power plant specific and professional skills, knowledge, and principles. Prime power production specific training will include all critical tasks associated with the supervision, operation, installation, and maintenance of the electric power plants. Course length is estimated to be four (4) weeks.

LOCATION: Leonard Wood, MI

LESSON PLANS: N/A

COURSE START: 4<sup>th</sup> QTR FY07

	FY07	FY08	FY09	FY10
CLASSES/YR	1	1	1	1
STUDENT LOAD/YR	1	1	2	2

TRAS DOCUMENT:

ITP 3<sup>rd</sup> QTR FY03  
CAD 3<sup>rd</sup> QTR FY05  
POI 1<sup>st</sup> QTR FY07

TRAINING SUPPORT REQUIRED:

Training start date and length of training is developed based on fielding lessons learned.

# ANNEX C

## CATS Short-range Unit Training Strategies (Warfighter)

UNIT/SUSTAINMENT TRAINING		REQUIREMENT CONTROL SYMBOL <b>ATTG-55</b>		
REQUIREMENTS DETERMINATION AND ACQUISITION PROCESS		SYSTEM: THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) Objective System (OS)		
1. INDIVIDUAL TRAINING				
a. Strategy: Training for the THAAD system will be designed and structured to provide the soldier expertise in both weapon specific and professional development skills, knowledge and principles. Weapon specific training will include all tasks associated with enhanced operator/maintainer tasks on each end item comprising the THAAD system. Professional development will provide the THAAD noncommissioned officer with the leadership skills necessary to train, supervise and lead subordinate personnel. Individual skills will be sustained by use of extension training material, devices, and distributed training.				
MOS	Training Event	Frequency		
14 E 10	MOS Training	Weekly		
14 J 10	MOS Training	Weekly		
14 T 10	MOS Training	Weekly		
27 X 10	MOS Training	Weekly		
31 F 10	MOS Training	Weekly		
35 Y 10	MOS Training	Weekly		
52 E 10	MOS Training	Weekly		
b. Products required to sustain individual skills:				
PRODUCT	DATE REQUIRED	RESOURCE DOCUMENTS	RESPONSIBLE AGENCY	
Troop Proficiency Trainer (TPT) Embedded	FY 05	ORD	TPO	
Missile Round Trainer/Missile Round Pallet Trainer (MRT/MRPT)	FY 05	ORD	TPO	
Explosive Ordnance Disposal (EOD) Trainers	FY 05	ORD	TPO	
March Order & Emplacement Trainer (MOET)	FY 05	ORD	TPO	
Interactive Courseware (ICW)	FY 05	TRADOC 350-70	USAADASCH	

FIGURE C-OS-1, UNIT/SUSTAINMENT TRAINING (page 1 of 3)

Soldier Training Publications (STP)	FY 05	TRADOC 350-70		
Site Equipment	FY 05	BOIP	TPO	
ARTEP 44-695-30-MTP	FY 05	TRADOC 350-70	USAADASCH	
Soldiers Manuals	FY 05	TRADOC 350-70	USAADASCH	
Field Manual 44-91	FY 05	TRADOC 25-30	USAADASCH	
Technical Manuals	FY 05	TBD	Materiel Developer	
Interactive Media Instruction (IMI)/Distance Learning	FY 05	TRADOC 350-70	USAADASCH	
Army Correspondence Course (ACCP)	FY 05	TRADOC 350-70	USAADASCH	
Crew Drills	FY 05	TRADOC 350-70	USAADASCH	

## 2. COLLECTIVE TRAINING

a. Strategy: MTPs and drill books will incorporate the collective training required by battalion, battery, and platoon. Collective training is supported by use of TADSS, embedded trainers, and training exercises as outlined in the MTPs. USAADASCH will develop training scenarios for play on embedded trainers and other training devices that will support all phases of collective training.

<b>ECHELON</b>	<b><i>EVENT</i></b>	<b><i>FREQUENCY</i></b>
Battalion	TBD	TBD
Battery	FTX, CPX, STX	FTX-3, CPX-12, STX-12
Platoon	STX	STX-12
Crew	STX	STX-12

b. Products required to support collective skills:

<b>PRODUCT</b>	<b>DATE REQUIRED</b>	<b>RESOURCE DOCUMENTS</b>	<b>RESPONSIBLE AGENCY</b>	
Troop Proficiency Trainer (TPT) Embedded	FY 05	ORD	TPO	
Missile Round Trainer/Missile Round Pallet Trainer (MRT/MRPT)	FY 05	ORD	TPO	
Mission Training Plan (MTP)	FY 05	TRADOC 350-70	USAADASCH	
March Order and Emplacement Trainer (MOET)	FY 05	ORD	TPO	

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FIGURE C-OS-1, UNIT/SUSTAINMENT TRAINING (page 2 of 3)

Drills	FY 05	TRADOC 350-70	USAADASCH	
Site Equipment	FY 05	ORD/BOIP	TPO	

UNIQUE UNIT REQUIREMENTS MUST BE IDENTIFIED FOR SYSTEM FIELDING AND EMPLOYMENT

COMMENTS:

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Figure C-OS-1, Unit/Sustainment Training (page 3 of 3)

<b>SYSTEM MILESTONE SCHEDULE – SHEET B</b> (TRADOC REG 350-70)										PAGE 2 OF 13 PAGES					REQUIREMENTS CONTROL SYMBOL <b>ATTG-55</b>													
SYSTEM: THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM										TRADOC SCHOOL: USAADASCH 6 <sup>th</sup> Tng Bde/OMMCS					AS OF DATE:													
COMPLETED BY: Ms Joy Shepard / CW4 Emmanuel										OFFICE SYMBOL: ATSA-TPS					TELEPHONE: DSN 978-3917 / 788-6883													
TRAINING PACKAGE ELEMENT/PRODUCT:										INDIVIDUAL TRAINING																		
LEGEND:					MILESTONE BY QUARTER																							
					FY 02				FY 03				FY 04				FY 05				FY 06							
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
14E ADA OFFICER								1								3	5							6				
140A WARRANT OFFICER												1																
140E ADA WARRANT OFFICER												1																
14E FIRE CONTROL ENHANCED OPERATOR/MAINTAINER																	3											
14 J ADA C4I TOC ENHANCED OPERATOR/MAINTAINER												1								5				3				
14T LAUNCHER ENHANCED OPERATOR/MAINTAINER																												
27X SYSTEM REPAIRER								3																				
31F NETWORK SWITCHING SYSTEM OPERATOR/MAINTAINER																												
35Y INTEGRATED FAMILY OF TEST EQUIPMENT OPERATOR/MAINTAINER																												
52E PRIME POWER PRODUCTION SPECIALIST																												
916A HIMADDS/GS MAINTENANCE TECHNICIAN																												
NOTES: Use one sheet for each Training Element or Product and use as many sheets as required for a complete list. See TRADOC Reg 350-70.																												
<p>COMMENTS:</p> <ol style="list-style-type: none"> <li>Initial Individual Training Plan (ITP) completed and submitted.</li> <li>Annotated Task List completed and submitted.</li> <li>Course Administrative Data (CAD) completed and submitted.</li> <li>Training Program Worksheet (TPW) completed and submitted.</li> <li>Individual Training Plan (ITP) completed and submitted.</li> <li>Program of Instruction (POI) completed and submitted.</li> <li>Resident Course start dates:</li> </ol> <p>140A Resident Course start date is 4<sup>th</sup> Qtr FY07.</p> <p>140E Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>14E Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>14J Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>14T Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>27X Resident Course start date is 2<sup>nd</sup> Qtr FY 07.</p> <p>31F Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>35Y Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>52E Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p> <p>916A Resident Course start date is 4<sup>th</sup> Qtr FY 07.</p>																												





<b>SYSTEM MILESTONE SCHEDULE - SHEET B</b> (TRADOC REG 350-70)										PAGE 5 OF 13 PAGES					REQUIREMENTS CONTROL SYMBOL <b>ATTG-55</b>									
SYSTEM: THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM										TRADOC SCHOOL: USAADASCH					AS OF DATE:									
COMPLETED BY: Mr Janisheck / Ms Shepard (6 <sup>th</sup> ADA Bde)										OFFICE SYMBOL: ATSA-DOT-TMD/ 6 <sup>th</sup> ADA Bde					TELEPHONE: DSN 978-5900 / 3917									
TRAINING PACKAGE ELEMENT/PRODUCT:										SOLDIER'S TRAINING PRODUCTS (SM, TG, OFFICER FOUNDATION STANDARDS (OFS)).														
LEGEND:					MILESTONE BY QUARTER																			
					FY 04				FY 05				FY 06				FY 07				FY 08			
					1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
STP 44-14E1-SM (Chap 3)							1		2		3		4		5									
STP 44-14J1-SM																								
STP 44-14T1-SM (Chap3)							1		2		3		4		5									
STP 44-31F13-SM (Annex Only)							1		2		3		4		5									
STP 44-52E24-SM-TG (Annex Only)								1		2		3		4	5									
STP 44-14E25-SM-TG (Chap 4)								1		2		3		4	5									
STP 44-14J25-SM-TG																								
STP 44-14T25-SM-TG (Chap 4)								1		2		3		4	5									
14E OFS																								
27X																								
31F																								
35X																								
52E																								
NOTES: Use one sheet for each Training Element or Product and use as many sheets as required for a complete list. See TRADOC Reg 350-70.																								
<b>COMMENTS:</b> 1. Analysis completed. 2. Draft SM/TG submitted. 3. USATSC staffing. 4. CRM submitted. 5. Distribution.																								





SYSTEM MILESTONE SCHEDULE – SHEET B (TRADOC REG 350-70)								PAGE 8 OF 13 PAGES						REQUIREMENTS CONTROL SYMBOL ATTG-55									
SYSTEM: THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM								TRADOC SCHOOL: USAADASCH						AS OF DATE:									
COMPLETED BY: Mr. Joe Crawford (DPWL)								OFFICE SYMBOL: ATZC-ISR						TELEPHONE: DSN -									
TRAINING PACKAGE ELEMENT/PRODUCT:																							
FACILITIES																							
LEGEND:		MILESTONE BY QUARTER																					
		FY 01				FY 02				FY 03				FY 04				FY 05					
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q		
MCA Project 46611 THAAD Training Facility		1	2	3	4	5	6	7	8														
NOTES: Use one sheet for each Training Element or Product and use as many sheets as required for a complete list. See TRADOC Reg 350-70.																							
COMMENTS:																							
1. Range and facility requirements identified.																							
2. Construction requirements submitted to MACOM.																							
3. Directorate of Engineering and Housing (DEH) development or construction requirements completed.																							
4. Requirements validated and updated.																							
5. Supportive developments/requirements identified and availability or development coordinated.																							
6. Installation requirements submitted to MACOM with other construction requirements.																							
7. Refined construction requirements/range criteria forwarded to MACOM.																							
8. Construction initiated.																							











**ANNEX D**

**TRAINING DEVELOPMENT MILESTONE SCHEDULE**

<b>SYSTEM MILESTONE SCHEDULE</b>		<b>PAGE 1 OF 13 PAGES</b>		<b>REQUIREMENTS CONTROL SYMBOL ATTG-55</b>
<b>SHEET A</b>				
<b>SYSTEM: THEATER HIGH ALTITUDE AREA DEFENSE (THAAD)</b>		<b>DA CATEGORY: MAJOR</b>		<b>OFFICE SYMBOL ATSA-DT</b>
				<b>AS OF DATE</b> 10 November 1999
<b>POINTS OF CONTACT</b>	<b>NAME</b>	<b>OFFICE SYMBOL</b>		<b>TELEPHONE</b>
<b>MATERIAL COMMAND</b>				
<b>TRADOC PROPONENT</b>				
<b>TSM:</b>	MAJ Williams	ATSA-TSM-TMD		DSN 978-7410/FAX-3373
<b>CD:</b>	Mr. Luis Cordero	ATSA-CDM-T		DSN 978-1976/FAX-1240
<b>TD:</b>	Mr. Joe Janisheck	ATSA-DOT-TMD		DSN 978-5900/FAX-2777
<b>ASSOC SCHOOLS:</b>	USAOMMCS	ATSK-THP		DSN 978-2282/FAX-5112
<b>CD:</b>	MAJ Hughes/ CW-3 Courtland	ATSK-THP		DSN 687-0301/FAX-1340
<b>TD:</b>	Mr. Pat Dillaha	ATCL-A-TD		DSN 788-2911/FAXDSN746-7370
	CW4 Emanuel	ATSK-TT		DSN 788-2911
<b>ITEM</b>	<b>DATE</b>	<b>RESPONSIBLE AGENCY/POC</b>		<b>TELEPHONE</b>
MNS:	NOV 91	USAADASCH, DCD, Mr. Luis Cordero		DSN 978-1976/FAX-1240
SMMP:	1 DEC 97	USAADASCH, DCD, Mr. Luis Cordero		DSN 978-1976/FAX-1240
ORD:	15 JAN 98	USAADASCH, DCD, Mr. Luis Cordero		DSN 978-1976/FAX-1240
ILSMP:	2 OCT 92	USAADASCH, DCD, Mr. Luis Cordero		DSN 978-1976/FAX-1240
TTSP:	MAR 99	USAADASCH, DOTTD, Mr. Joe Janisheck		DSN 978-5900/FAX-2777
QQPRI:		USAADASCH, DCD, Mr. Fred Cronauer		DSN 978-2920/FAX-6935
BOIP:		SMTP, Mr. Philip E. Hagerich		DSN 978-2920/FAX-6935

NETP:	16 APR 93	AMCOM, Mr. Dickie L. Cline	DSN 746-7410/FAX-1486
STRAP:		USAADSCH, DOTTD, Mr. Joe Janisheck	DSN 978-5900/FAX-2777

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# ANNEX E

## RESOURCES

1. **Facilities Requirements.** (Military Construction Army (MCA) plus Operations and Maintenance, Army (OMA) and Other Procurement Army (OPA) tails). The purpose of OMA and OPA tails is to ensure critical support of MCA projects. They identify essential habitability items and operations equipment.

\* The THAAD CTEA describes the cost analysis performed to estimate cost associated with the fielding of the THAAD system (see page 17-28).

Description	Appn/Amount	FY Req'd	\$ Source
a. <u>USAADASCH:</u>			
New Training Facility	MCA/TBD	FY 07	HQDA/PM
Facility/Class Furnishings	OMA/TBD	FY 07	HQDA/PM
Information Infrastructure	OPA/TBD	FY 07	HQDA/PM
Building Modifications	OMA/TBD	FY 07	HQDA/PM
b. <u>USAOMMCS:</u>			
New Training Facility	MCA/TBD	FY 07	HQDA/PM
Facility/Class Furnishings	OMA/TBD	FY 07	HQDA/PM
Information Infrastructure	OPA/TBD	FY 07	HQDA/PM
Building Modifications	OMA/TBD	FY 07	HQDA/PM
c. <u>USASIGSCH:</u>			
New Training Facility	MCA/TBD	FY 07	HQDA/PM
Facility/Class Furnishings	OMA/TBD	FY 07	HQDA/PM
Information Infrastructure	OPA/TBD	FY 07	HQDA/PM
Building Modifications	OMA/TBD	FY 07	HQDA/PM
d. <u>USAENGSCCH:</u>			
New Training Facility	MCA/TBD	FY 07	HQDA/PM
Facility/Class Furnishings	OMA/TBD	FY 07	HQDA/PM
Information Infrastructure	OPA/TBD	FY 07	HQDA/PM
Building Modifications	OMA/TBD	FY 07	HQDA/PM

2. **Additional Equipment Requirements. (OPA Funded)**

a. **USAADASCH:**

<b><u>Tactical Equipment</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
BM/C <sup>3</sup> I (two (2) TSG's)	TBD	1
SSG	TBD	2
THAAD Launcher	D047AA	3
THAAD RADAR		
Antenna Equipment (AE)	D047AE	1
Cooling Equipment Unit (CEU)	D047AF	1
Electronic Equipment Unit (EEU)	D047AG	1

<b><u>Equipment (TADSS)</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
Missile Round Pallet Trainer (MRPT)	TBD	2
Missile Round Trainer (MRT)	TBD	16
Institutional Conduct of Fire Trainer (ICOFT)	TBD	4
March Order and Emplacement Trainer (MOET)	TBD	1

b. **USAOMMCS:**

<b><u>Tactical Equipment</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
TBD	TBD	TBD

<b><u>Equipment (TADSS)</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
Institutional Maintenance Trainer (IMT)	TBD	3
Explosive Ordnance Disposal Trainers (EODTs)		
Practical EOD System Trainer (PEST)	TBD	5
Classroom EOD System Trainer (CEST)	TBD	2

c. **USASIGSCH:**

<b><u>Tactical Equipment</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
TBD	TBD	TBD

<b><u>Equipment (TADSS)</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
TBD	TBD	TBD

d. **USAENGSCCH:**

<b><u>Tactical Equipment</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
TBD	TBD	TBD

<b><u>Equipment (TADSS)</u></b>	<b><u>BOIP Number</u></b>	<b><u>Number Required</u></b>
---------------------------------	---------------------------	-------------------------------

TBD

TBD

TBD

e. UNIT:

<u>Tactical Equipment</u>	<u>BOIP Number</u>	<u>Number Required</u>	
THAAD Launcher	D047AA	9	per Firing Btry
Missile Round Pallet (MRP)	D047AC	72	per Bn
Shipping Set Missile Round	D047AD	1	per Firing Btry
RADAR:			
Antenna Equipment (AE)	D047AE	6	per Bn
Cooling Equipment Unit (CEU)	D047AF	6	per Bn
Electronic Equipment Unit (EEU)	D047AG	6	per Bn
Tactical Operations Station (TOS)	D047CC	19	per Bn
Sling Set Missile Round	D047AB	1	per Firing Btry
Tool Kit (BM/C <sup>4</sup> I)	D047BA	3	per TMC
Tool Kit (Launcher)	D047BB	3	per TMC
Tool Kit (Radar)	D047BC	3	per TMC
Tool Kit (Radar)	D047BD	3	per TMC
Contact Maintenance Truck	D047BE	10	per Bn
Integrated Diagnostic Shop	D047BF	5	per Bn
Mechanical /Hydraulic Shop	D047BG	TBD	TBD
Maintenance Power Station	D047BH	TBD	TBD
Test Line Replacement Unit Shelter	D047BI	5	per Bn
Communication Relay (CR)	D047CA	3	per Btry/15 per Bn
Launcher Control Station (LCS)	D047CB	19	per Bn
Prime Power Unit (PPU)	D047AH	6	per Bn

<u>Equipment (TADSS)</u>	<u>BOIP Number</u>	<u>Number Required</u>	
Missile Round Pallet Trainer (MRPT)	TBD	16	per Btry/64 per Bn
Missile Round Trainer (MRT)	TBD	16	per Btry/64 per Bn
March Order and Emplacement Trainer (MOET)	TBD	1	per Bn

3. **Additional OMA Funding Requirements.** (TRADOC funding responsibility FY03+.)

<b>Description</b>	<b>Appn/Amount</b>	<b>Freq</b>	<b>Req'd</b>	<b>\$ Source</b>
a. Training-				
(1) <u>USAADASCH:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Contract Maintenance	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			

Description	Appn/Amount	Freq	Req'd	\$ Source
<u>(2) USAOMMCS:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Contract Maintenance	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
<u>(3) USASIGSCH:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Contract Maintenance	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
<u>(4) USAENGSCHE:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Contract Maintenance	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
b. Training Support-				
<u>(1) USAADASCH:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Printing	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
<u>(2) USAOMMCS:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Printing	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
<u>(3) USASIGSCH:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Printing	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			
<u>(4) USAENGSCHE:</u>				
Civilian Payroll	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Printing	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Supplies/Equipment	OMA/\$ 00.0K-TBD			

c. Base Operations (BASOPS)-

(1) USAADASCH:

Utilities	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
In/Out Process	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Information Management	OMA/\$ 00.0K-TBD	R	FY 07	

(2) USAOMMCS:

Utilities	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
In/Out Process	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Information Management	OMA/\$ 00.0K-TBD	R	FY 07	

(3) USASIGSCH:

Utilities	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
In/Out Process	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Information Management	OMA/\$ 00.0K-TBD	R	FY 07	

(4) USAENGSCCH:

Utilities	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
In/Out Process	OMA/\$ 00.0K-TBD	R	FY 07	TRADOC-FY03+
Information Management	OMA/\$ 00.0K-TBD	R	FY 07	

- Note: R is for recurring

4. Additional Manpower Requirements.

<u>Description</u>	<u>OFF</u>	<u>WO</u>	<u>ENL</u>	<u>CIV</u>	<u>TOTAL</u>
--------------------	------------	-----------	------------	------------	--------------

a. Training - Note: Numbers are estimates

(1) USAADASCH:

Instructors	5	1	7	7	20
Overhead	0	0	0	1	1

(2) USAOMMCS: TBD

Instructors	-	-	-	-	-
Overhead	-	-	-	-	-

(3) USASIGSCH: TBD

Instructors	-	-	-	-	-
Overhead	-	-	-	-	-

(4) USAENGSCCH: TBD

Instructors	-	-	-	-	-
Overhead	-	-	-	-	-

b. Training Support -

(1) USAADASCH: TBD

Training Development	-	-	-	-	-
Training Evaluation	-	-	-	-	-

(2) USAOMMCS: TBD

Training Development	-	-	-	-	-
Training Evaluation	-	-	-	-	-

(3) USASIGSCH: TBD

Training Development	-	-	-	-	-
Training Evaluation	-	-	-	-	-

(4) USAENGSCCH: TBD

Training Development	-	-	-	-	-
Training Evaluation	-	-	-	-	-

c. Base Operations (BASOPS) –

(1) USAADASCH: TBD

AG	-	-	-	-	-
Finance	-	-	-	-	-

(2) USAOMMCS: TBD

AG	-	-	-	-	-
Finance	-	-	-	-	-

(3) USASIGSCH: TBD

AG	-	-	-	-	-
Finance	-	-	-	-	-

(4) USAENGSCCH: TBD

AG	-	-	-	-	-
Finance	-	-	-	-	-



# ANNEX F

## REFERENCES

<u>TITLE</u>	<u>DATE</u>
MISSION TRAINING PLAN FOR THE ADA BATTERY, THAAD ARTEP 44-695-30-MTP (DRAFT)	07 Oct. 1998
OPERATIONAL REQUIREMENT DOCUMENT (S)	15 Jan. 1998
SYSTEM MANPRINT MANAGEMENT PLAN (SMMP) (DRAFT) Version 12D	undated
HIGH ALTITUDE THEATER MISSILE DEFENSE (HATMD) SYSTEM TRAINING PLAN (STRAP)	29 Jan. 1993
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) BATTALION AND BATTERY OPERATIONS FM 44-91 (DRAFT)	01 Aug. 1999
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) INTEGRATED LOGISTICS SUPPORT PLAN	13 May 1996
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM TEST AND EVALUATION MASTER PLAN (S) REVISION G	30 Dec. 1991
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) TRAINING IMPACT ANALYSIS (TIA)	30 Jun. 1994
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) COST AND TRAINING EFFECTIVE ANALYSIS	01 May 1997
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) COST ANALYSIS REQUIREMENTS DOCUMENT (CARD)	14 Apr. 1997
ENGINEERING AND MANUFACTURING DEVELOPMENT (EMD) CARD VOLUME I & II (DRAFT)	15 Mar. 1999
THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) SYSTEM THREAT ASSESSMENT REPORT (STAR)	01 Oct. 1998

**ANNEX G**

**COORDINATION**

SYSTEM: THAAD			DATE: 7 October 1996
	COMMENTS		
AGENCY	SUBMITTED	ACCEPTED	RATIONALE FOR NON-ACCOMMODATION
United States Army Air Defense Artillery School Combined Arms and Tactics Department	60	56	Comments superseded by comments from responsible party.
United States Army Air Defense Artillery School, Office, Chief of Air Defense Artillery	3	3	
United States Army Air Defense Artillery School, Combat Developments	16	16	
TRADOC System Manager – TMD	60	42	Comments accepted from CATD superseded TSM comment on CATS tables.
Cdr, 6th ADA BDE, S3	7	6	Comment accepted from CATD superseded 6 <sup>th</sup> Bde comment on CATS tables.
Director, TEXCOM Air Defense Artillery Test Directorate	0	0	Concur as written.
USAADACENFB, Directorate of Resource Management	0	0	Concur as written.

**COORDINATION SUMMARY  
OF 30 APRIL 1997 STRAP COMMENTS**

SYSTEM: THAAD			DATE: 30 April 1997
	COMMENTS		
AGENCY	SUBMITTED	ACCEPTED	RATIONALE
USAADASCH Combined Arms and Tactics Department	17	17	
USAADASCH Office, Chief of ADA	3	3	
USAMICOM Redstone Arsenal, AL	21	15	
USAADASCH TSM-TMD	59	59	
Cdr, 6 <sup>th</sup> ADA BDE, S3	10	10	
Director, TEXCOM Air Defense Artillery Test Directorate	0	0	Concur as written.
USAADACENFB, Directorate of Resource Management	0	0	Concur as written.
SHORAD TSM Fort Bliss, TX	21	15	Concur as written.

**ANNEX G**

## COORDINATION

SYSTEM: THAAD			DATE: 1 October 1999
	COMMENTS		
AGENCY	SUBMITTED	ACCEPTED	RATIONALE FOR NON-ACCOMMODATION
United States Army Air Defense Artillery School DOTTD, Doctrine Div.	N/A	N/A	Comments were provided using line through and strike method. Majority were accepted.
United States Army Air Defense Artillery School, Combat Developments	N/A	N/A	Comments were provided using line through and strike method. Majority were accepted.
TRADOC System Manager – TMD	N/A	N/A	Comments were provided using line through and strike method. Majority were accepted.
Cdr, 6th ADA BDE, S3	10	10	Comments accepted.

Note: Numerous Working Group meetings were conducted to incorporate comments. This took place over a two (2) year period of time. Since the vast majority of comments were collected at the WG meeting the actual number of comments is not depicted here.

## ANNEX H

### ACRONYM and DEFINITION LISTING

ABCS	Army Battle Command Systems
AC	Active Component
ACCP	Army Correspondence Course Program
ACV	Antenna Cable Vehicle
ADA	Air Defense Artillery
ADCATT	Air Defense Combined Arms Tactical Trainer
ADMP	Army Digitization Master Plan
AE	Antenna Equipment
AFQT	Armed Forces Qualification Test
AIT	Advanced Individual Training
AMC	United States Army Materiel Command
AMD	Air and Missile Defense
AMIM	Army Modernization Information Memorandum
ANCOC	Advanced Noncommissioned Officer Course
Appended	Embedded training that is installed or attached to the prime system when needed, and removed when not needed. It is likely to require permanent, designed-in components (sensors, mounting brackets, connectors, etc.). It could be used in assembly areas or in close proximity to combat. It could go to war with the system, if designed to do so, but in many cases this is not a required capability. Ruggedization may be required. Systems of this type could be used with more than one prime system of the same type, but only one at any given time.
AMIM	Army Modernization Information Memorandum
AR	Army Regulation
ARM	Anti-Radiation Missile
ARTEP	Army Training and Evaluation Program
AS	Ammunition Surveillance
ASI	Additional Skills Identifier
ASIOE	Associated Support Items of Equipment
ASL	Authorized Stockage List
ATDL	Army Training Digital Library: A gateway system to provide storage, retrieval, search and relational data for training data. The ATDL is an integral part of the Warfighter XXI training strategy.
ATLP	Army Training Literature Program
ATSC	Army Training Support Center
BASOPS	Base Operations
BDAR	Battle Damage Assessment and Repair
BIT/BITE	Built-in Test/Built-in Test Equipment
BLT	Branch Liaison Team
BM/C <sup>4</sup> I	Battle Management/Command, Control, Communications, Computers, & Intelligence
BNCOC	Basic Noncommissioned Officer Course
BOIP	Basis of Issue Plan
BOIPFD	Basis of Issue Plan Feeder Data

C <sup>3</sup>	Command, Control, and Communications
C <sup>3</sup> I Domain	Command, Control, Communications, and Intelligence: Will prepare decision makers for periods of crisis and war through simulations. With the extensive computing and data base resources available, a commander can consider a wider range of options - and review "war games" of those options - prior to execution on the battlefield. This will enable the commander to respond effectively and efficiently to new opportunities.
CAD	Course Administrative Data
CAI	Computer-Assisted Instruction
	Category A Embedded Training (Individual/Operator). Training objective: Attain and sustain individual, maintenance, and system orientation skills.
	Category B Embedded Training (Crew/Team). Training objective: Sustain combat ready crews/teams. This category integrates individual skills acquired from Category A.
	Category C Embedded Training (Functional). Training objective: Train or sustain commanders, staffs, and crews within each Battlefield Functional Area (BFA) to be utilized in their operational role.
	Category D Embedded Training (Force Level/Combined Arms and Battle Staff). Training objective: To train or sustain combat ready commanders and battle staffs utilizing the operational system in its combat role.
CATS	Combined Arms Training Strategy: The Army's overarching strategy for the current and future training of the force. This strategy describes how the Army will train the total force to standard in the institutions and unit through self development. CATS also documents the quantity, and justification for all training resources required to execute the training.
CATT	Combat Arms Tactical Trainer
CBT	Computer Based Training
CBTDEV	Combat Developer
CCC	Captains Career Course
CD&V	Combat Development and Validation
CDE	Combat Development Engineering
CD-ROM	Compact Disk-Read Only Memory
CEST	Classroom EOD System Trainer
CEU	Cooling Equipment Unit
CFX	Command Field Exercise
CLS	Contractor Logistic Support
CM	Cruise Missile
CMF	Career Management Field
CMT	Command Military Training
COE	Common Operating Environment
COIC	Critical Operational Issue and Criteria
COMSEC	Communications Security
Constructive	1. Mathematical models used as a tool to support collective training (battalion commanders and staffs through Army theater - CBS, CSSTSS, BBS) and in individual leadership training (JANUS) and analytical applications (JANUS and EAGLE). May be used with or without human interaction.. Sometimes referred to as Wargame models. (DIS Master Plan, Sep 94). 2. A form of M&S that involves aggregated software representation of units, their behavior, associated outcomes, and support operations using rules, data and procedures designed to depict an actual or real world situation. (Army M&S Master Plan).

Courseware	An actual instructional package (including content and technique) loaded in a computer, training device, or other instructional delivery system.
CPX	Command Post Exercise
CR	Communications Relay
CRC	Camera Ready Copies
CRM	Camera Ready Mechanical
CT	Critical Task
CTA	Common Table of Allowance
CTC	Combat Training Center
CTEA	Cost and Training Effectiveness Analysis
CTL	Critical Task List
CTT	Common Task Training
CTU	Consolidated Tables of Organization and Equipment
CTX	Combined Training Exercise
CY	Calendar Year
DA	Department of the Army
DAAPP	Department of the Army Audio Visual Production Program
DAM	Display Aided Maintenance
DCD	Directorate of Combat Developments
DCSLOG	Deputy Chief of Staff for Logistics
DCSOPS	Deputy Chief of Staff for Operations
DCSPER	Deputy Chief of Staff Personnel
DCSPI	Deputy Chief of Staff Personnel Integration
DEH	Directorate of Engineering and Housing
DEPEX	Deployment Exercise
DEM/VAL	Demonstration and Validation
DII	Defense Information Infrastructure
DIS	Distributed Interactive Simulation
DL	Distance Learning
DLM	Depot Level Maintenance
DLT	Data Link Terminal
DoD	Department of Defense
DS	Direct Support
DT/TT	Development Test/Technical Test
DTT	Doctrine and Tactics Training
DTTP	Doctrine, Tactics, Techniques, and Procedures
E <sup>3</sup>	Electromagnetic Environmental Effects
EADSIM	Extended Air Defense Simulation
ECA	Early Comparability Analysis
ECM	Electronic Counter Measure
ECCM	Electronic Counter Counter Measure
ECS	Engagement Control Station
EEA	Essential Elements of Analysis
EEU	Electronics Equipment Unit
EFF	Essential Function Failure
EI	Electronic Information
EMD	Engineering and Manufacturing Development
EO	Engagement Operations
EOD	Explosive Ordnance Disposal

EPSS	Performance Support System
ET	Embedded Training: A system training capability that enhances or maintains skill proficiency by allowing soldiers to train using their operational equipment.
ETM	Electronic Technical Manual
EXEVAL	External Evaluation
FAMSIM	Family of Simulations
FCX	Fire Coordination Exercise
FDDI	Fiber Distributed Data Interface
FEA	Front End Analysis
FESA	Front End Support Analysis
FM	Field Manual
FO	Force Operations
FOE	Follow-On Evaluation
FOT&E	Follow-On Test and Evaluation
FTX	Field Training Exercise
FU	Firing Unit
FUE	First Unit Equipped
Fully Embedded	A method of embedded training in which all features are contained in the prime system. ET is distributed with the prime system, usually on a one-for-one basis. It should be included when computing the Reliability, Availability and Maintainability (RAM) requirements of the prime system.
FY	Fiscal Year
GCCS-A	Global Command and Control System-Army
GS	General Support
GUI	Graphic User Interface
HE	Human Engineering
HFE	Human Factors Engineering
HFEA	Human Factors Engineering Assessment
HH	Health Hazard
HHA	Health Hazard Assessment
HHB	Headquarters and Headquarters Battery
HLA	High Level Architecture
HMI	Human-Machine Integration
HQDA	Headquarters Department of the Army
HTS	Hazards Tracking System
IAC	Interactive Courseware
IAP	Integrated Avionics Package
I&KP	Instructor and Key Personnel
IAW	In Accordance With
ICC	Information Coordination Central
ICOFT	Institutional Conduct of Fire Trainer
IETM	Interactive Electronic Technical Manual
IEP	Independent Evaluation Plan
IET	Initial Entry Training
IFTE	Integrated Family of Test Equipment
IHFR	Improved High Frequency Radio
ILS	Integrated Logistic Support

ILSMT	Integrated Logistic Support Management Team
ILSP	Integrated Logistic Support Plan
IMT	Institutional Maintenance Trainer
Instrumentation	The use of electronic or electromechanical systems to sense and record events performed by real weapon systems and personnel. Instrumentation includes detection, measurement, recording, telemetry and data processing.
IOC	Initial Operational Capability
IOTE	Initial Operational Test and Evaluation
IPB	Intelligence Preparation of the Battlespace
IPT	Integrated Product Team
ISA	Independent Safety Assessment
ITP	Individual Training Plan
ITS	Integrated Training Schedule
JTMD	Joint Theater Missile Defense
JTX	Joint Training Exercise
KV	Kill Vehicle
KSS	Knowledge Support Systems
LAN	Local Area Network: A class of data networks which provides high data rate interconnection between network nodes in close physical proximity. LANs are defined by the IEEE 802.X series of standards.
LCS	Launch Control Station
LCSMM	Life Cycle System Management Model
LD	Logistic Demonstration
LMIU/DRU	Launch Module Interface Unit/Dynamic Reference Unit
LMMS	Lockheed Martin Missile and Space
LOGEX	Logistical Exercise
LRU	Line Replaceable Unit
LSA	Logistics Support Analysis
LSAR	Logistics Support Analysis Report
LTA	Local Training Area
LUT	Limited User Test
MACOM	Major Army Command
MANPRINT	Manpower and Personnel Integration
MAPEX	Map Exercise
MATDEV	Materiel Developer
METL	Mission Essential Task List
METT-TC	Mission, Enemy, Terrain, Troops, and Time Available and Civilians
MICOM	Missile Command
MIL-H	Military Handbook
MIL-STD	Military Standard
MNS	Mission Needs Statement
MOA	Memorandum of Agreement
MOE	Measure of Effectiveness
MO&E	March Order and Emplacement
MOET	March Order and Emplacement Trainer
MOP	Measure of Performance
MOPP	Mission Oriented Protective Posture

MOS	Military Occupational Specialty
MPTA	Manpower, Personnel, and Training Analysis/Assessment
MPT	Manpower, Personnel, and Training
MPTR	Multipurpose Training Range
MR	Missile Round
MRD	Materiel Requirements Division
MRP	Missile Round Pallet
MRPT	Missile Round Pallet Trainer
MRT	Missile Round Trainer
M&S	Model and Simulation: Any representation or imitation of reality.
MS	Milestone
MT	Maintenance Trainer
MTBSA	Mean Time Between System Abort
MTP	Mission Training Plan
MTS	Missile Test Set
MTTR	Mean Time To Repair
NBC	Nuclear, Biological and Chemical
NCO	Noncommissioned Officer
NET	New Equipment Training
NETP	New Equipment Training Plan
NETT	New Equipment Training Team
NMIBT	New Materiel Information Briefing Team
OBC	Officer Basic Course
OCADA	Office of the Chief of Air Defense Artillery
OCONUS	Outside of Continental United States
OCU	Operator Console Unit
OMS/MP	Operational Mode Summary/Mission Profile
OPLAN	Operation Plan
OPSEC	Operations Security
OPTEMPO	Operating Tempo
ORD	Operational Requirements Document: A formatted statement containing performance (operational effectiveness and suitability) and related operational parameters for the proposed system. The ORD will initially be prepared during Phase 0 “Concept Exploration and Definition”. It will be updated during Phase I, “Demonstration and Validation”.
OS	Objective System
OSHA	Occupational Safety and Health Administration/Act/Agency
OSI	Operator System Interface
OTRS	Operational Test Readiness Statement
OT/UT	Operational Test/User Test
OTM	On-line Training Mode
PAC	Patriot Advanced Capabilities
PATRIOT	Phased Array Tracking Radar to Intercept of Target
PCC	Pre-Command Course
PDRR	Program Definition and Risk Reduction
PEO	Program Executive Office
PEST	Practical EOD System Trainer
PFTEA	Post Field Training Effectiveness Analysis

PLL	Prescribed Load List
PLS	Palletized Load System
PLT	Procurement Lead Time
PM	Program/Project Manager
PMCS	Preventive Maintenance Checks and Services
POC	Point of Contact
POI	Program of Instruction
PPBES	Program Planning, Budgeting and Execution System
PPU	Prime Power Unit
PRF	Proficiency Recognition File
Proponent	An Army organization or staff that has been assigned primary responsibility for materiel or subject matter experts in its area of interest.
PSS	Performance Support System: Is a technology that helps users perform the operational task at hand. This type of technology is also known as Electronic Performance Support Systems (EPSS), Knowledge Support Systems (KSS), and other similar titles. PSS is "operationally oriented" training. PSS does this by interpreting a user's proficiency and integrating diverse system resources to act together in a pseudo-interactive way with the user. A PSS tailors information presentation and assistance to the user's proficiency, manner of learning, immediate needs, and stimulates learning at all times. A PSS system combines technologies such as: hypertext help, courseware, Graphic User Interface (GUI), icons, color and audio cues, and a utility to integrate them (i.e., Proficiency Recognition File (PRF)/algorithm, Intelligent Tutor System (ITS)/expert system, etc.). Technologies selected for a PSS system is the quality of the integrating utility. PSS technology primarily fulfills sustainment training needs and partially satisfies ET categories A, B, and sometimes C.
QAS	Quality Assurance Specialist
QQPRI	Qualitative and Quantitative Personnel Requirements Information
R&M	Reliability and Maintainability
RC	Reserve Component
RDA	Research, Development, and Acquisition
RDD	Required Delivery Date
RDT&E	Research Development Test and Evaluation
RE	Readiness Exercise
Reg	Regulation
REXTTG	Receiver Exciter Test Target Generator
RF	Radio Frequency
ROE	Rules of Engagement
RSOP	Reconnaissance Selection and Occupation of Position
RSP	Render Safe Procedures
SASO	Support and Stability Operations
SAT	Systems Approach to Training
SATS	Standard Army Training System: Is a computer-based system that automates training management doctrine found in FM 25-100, Training the Force, FM 25-101, Battle Focused Training, and FM 100-5, Operations. It provides the opportunity to incorporate training plans and products, readiness reporting tools, calendars (three (3) dimensional), schedules, all unit activities and related data bases at all echelons, and computes associated resources. SATS accesses and feeds all library components as well as other Warfighter XXI (WF XXI) components.

SE	Synthetic Environment
Simulation	To feign. To obtain the essence of, without the reality of warfare. In the DIS domains, everything short of actual combat is a simulation. Three categories: <ol style="list-style-type: none"> <li>1. Live. A representation of military operations using military personnel and equipment which simulates experiences achieved during actual combat conditions. Typical live simulations are operational testing, field exercises, training exercises and force-on-force exercises. (DIS MP).</li> <li>2. Virtual. The environment created by physical models or simulations of weapons system, sets of weapons systems, or pieces of equipment which represent some major aspects of equipment operation. Simulators interacting within a virtual reality environment and possibly with other simulators. (DIS MP)</li> <li>3. Constructive. A form of simulation, commonly called war games, that involves software representation of two or more opposing forces, using rules, data, and procedures designed to depict an actual or real life simulation. May be used with or without human interaction.</li> </ol>
Simulator	A training device which substitutes for, by emulation, the functions and environment of actual process, equipment, or systems.
SINCGARS	Single Channel Ground and Airborne Radio System
SM	Soldiers Manual
SME	Subject Matter Expert
SMI	Soldier-Machine Interface
SMMP	System MANPRINT Management Plan
SOP	Standing Operating Procedure
SOW	Statement of Work
SPOD	Sea Ports of Debarkation
SRU	Shop Replaceable Units
SSI	Sensor System Interface/Special Skill Identifier
SSP	System Support Plan
SSv	Soldier Survivability
SSvA	Soldier Survivability Assessment
STAARS	Standard Army After Action Review System: This system will standardize after action products by echelon . AAR products will be identical or nearly identical for live, virtual or constructive exercises. STAARS will support training, rehearsal, analysis and research/experimentation.
STAFFEX	Staff Exercise
STOW	Synthetic Theater of War
STP	Soldier Training Publication
STRAC	Standards in Training Commission
STRAP	System Training Plan: The master training plan for a new system. It outlines the development of the total training strategy for integrating the item into the sustaining base and gaining units; plans for all necessary training support, training products and courses; and sets milestones to ensure accomplishment of the training strategy.
STX	Situational Training Exercise
SWOC	Senior Warrant Officer Course
TA	Task Analysis or Target Audience
TAACOM	Theater Army Area Command
TAD	Target Audience Description
TADSS	Training Aids, Devices, Simulators, and Simulations: A general term that includes CTC and range instrumentation; Tactical Engagement System (TES); battle simulations; targetry; training unique ammunition; and dummy and inert munitions.

TASM	Tactical Air to Surface Missile
TBA	To Be Added
TBD	To Be Determined
TBI	To Be Identified
TBM	Theater Ballistic Missile
TBP	To Be Published
TD	Training Development
TDNS	Training Device Needs Statement
TDP	Technical Data Package
TDR	Training Device Requirement
TDS	Training Development Study
TEA	Training Effective Analysis
TEMP	Training and Evaluation Master Plan
TES	Tactical Engagement System
TER	Test and Evaluation Report
TEWT	Tactical Exercise Without Troops
TF	Task Force
TG	Trainers Guide
THAAD	Theater High Altitude Area Defense
TIA	Training Impact Analysis
TIWG	Test Integration Working Group
TM	Technical Manual
TMD	Theater Missile Defense
TMDE	Test, Measurement, and Diagnostic Equipment
TNG	Training
TO&E	Tables of Organization and Equipment
TOC	Tactical Operations Center
TOS	Tactical Operations Station
TPFDL	Time-Phase Force Deployment List
TPO	THAAD Project Office
TPS	Test Program Sets
TPT	Troop Proficiency Trainer
TPW	Training Program Worksheet
TR	THAAD Radar
TRAC	TRADOC Analysis Command
TRADOC	Training and Doctrine Command
TRAS	Training Requirement Analysis System
TRD	Technical Requirements Document
TR	THAAD Radar
TSG	Tactical Station Group
TSM	TRADOC System Manager
TSP	Training Support Package: A package that provides a structured situational training template offering live, virtual, or constructive battle staff and collective training events to assist the commander in executing and assessing training.
TTCP	Training Test Certification Plan
TTP	Techniques, Tactics, and Procedures
TTSP	Training Test Support Package
UAV	Unmanned Aerial Vehicle
UCOFT	Unit Conduct of Fire Trainer
UHF	Ultra High Frequency

Umbilical This method of embedded training is like appended embedded training, but involves additional physical connection(s) to external components (computers, telephone systems, Local Area Network (LAN), etc.). It may interconnect many systems, as in networked simulations for force-on-force training. In most cases it is not a go-to-war training system. One umbilical system can serve multiple prime systems, or even dissimilar systems, and may support multiple systems at the same time.

UMT Unit Maintenance Trainer

URS Unit Reference Sheet

USAADASCH United States Army Air Defense Artillery School

USAES United States Army Engineering School

USAOCS United States Army Ordnance Center and School

USAOMMCS United States Army Ordnance, Missile, and Munitions Center and School

USASDC United States Army Strategic Defense Command

USASIGCEN United States Army Signal Center

USATC United States Army Training Center

USATECOM United States Army Test and Evaluation Command

USATSC United States Army Training Support Center

UUT Unit Under Test

VCCM Voice Communications Control Module

VEDS Virtual Environment Display System

Virtual Simulators interacting within a virtual reality environment and possibly with other simulators. Operational examples are the M1 and M2 Conduct of Fire Training (COFT) found at various posts. Future examples will be the Combined Arms Tactical Trainer (CATT). (DIS Master Plan).

WAN Wide Area Network

WARSIM Warfighter Simulation

WARSIM 2000 Will exploit new technology to enable command posts at all echelons to train in realistic, Distributed Interactive Simulation compliant, simulation environment. The design will allow warfighting command posts to interact with the simulation using their TO&E equipment so they can train in the field, not in simulation centers.

WARRIOR Individual

WARFIGHTER Unit

WBT Web-Based Training

WF XXI Warfighter XXI

WIPT Working Integrated Product Team

WO Warrant Officer

WOAC Warrant Officer Advanced Course

WOBC Warrant Officer Basic Course

WOs Warrant Officers

WOTCC Warrant Officer Technical Certification Course

WOTS Warrant Officer Training System

WMD Weapons of Mass Destruction

WSO Weapon System Officer

## ANNEX I

### Training Aids, Devices, Simulators and Simulations (TADSS)/Embedded Training (ET)

#### a. Purpose

The TADSS/ET annex provides a detailed description of TADSS/ET requirements necessary to support training for NET, the institution, the unit, and CATS. It is important to note that wherever and whenever possible TADSS/ET capabilities will be used. The focus of this strategy is to ensure training can be accomplished at unit locations in real-time without relying heavily on the institutional training base. Units will have the capability to train tasks necessary to ensure skills and proficiencies match operational requirements. The THAAD system will interoperate with real world C<sup>4</sup>I systems and simulators and simulation systems to train the unit. The THAAD system will be linked to a networked training capability (functional embedded training) with Army Battle Command Systems (ABCS) devices, to include the Global Command and Control System-Army (GCCS-A) and other C<sup>4</sup>I devices as appropriate. It should also link into the Family of Simulations (FAMSIM) training systems such as the Corps Battle System (CBS) and WARSIM 2000 for training, rehearsals and determining courses of action. Every effort should be made to leverage Synthetic Environment (SE) Core technologies to train and execute mission rehearsals in the SE and Synthetic Theater of War (STOW) environments. The NET training device requirement is to have system TADSS/ET available during NET training. Specific TADSS/ET capabilities are covered in the following paragraphs.

#### b. Overview

The following charts summarize each TADSS/ET requirement for the THAAD system. They depict where the TADSS/ET requirements are to be located, the ET categories, and the training arena supported. These charts are not intended to limit use of TADSS/ET but to present in chart format where TADSS/ET are envisioned to be used. These locations may change based on operational needs and future analysis to be performed. The amounts (#) of devices is determined based on student loads, instructor/student ratios, media of instruction and Army needs.

**Table I-1. TADSS**

Training Aids, Devices, Simulators, and Simulations (TADSS)			
Requirements for the THAAD System			
<b>TADSS EQUIPMENT</b>			
<i>PURPOSE/FUNCTION</i>	<i>NET</i>	<i>INSTITUTION</i>	<i>UNIT</i>
<b>Institutional Conduct of Fire Trainer (ICOFT)</b>			
• Crew Operations	X	X	
• Enhanced Operator/Maintainer Functions and Repair & Replacement Functions	X	X	

• Engagement Operations	X	X	
• Force Operations	X	X	
• BM/C <sup>3</sup> I Operations	X	X	
• Radar Initialization and R&R Functions	X	X	
• Launcher Computer Controls and Displays	X	X	
• Control Console Evaluation Function	X	X	
• CATS	X	X	
<b>Missile Round Trainer (MRT)</b>			
• Crew Operations	X	X	X
• Enhanced Operator/Maintainer Functions	X	X	X
<b>Missile Round Pallet Trainer (MRPT)</b>			
• Crew Operations	X	X	X
• Enhanced Operator/Maintainer Functions	X	X	X
<b>PURPOSE/FUNCTION</b>	<b>NET</b>	<b>INSTITUTION</b>	<b>UNIT</b>
<b>Institutional Maintenance Trainer (IMT) Three-Dimensional (3-D)</b>			
• Critical Tasks with Fault Diagnosis	X	X	
• Maintenance Tasks of BM/C <sup>3</sup> I	X	X	
• Maintenance Tasks of Radar Equipment	X	X	
• Maintenance of Launcher Electronics PPT	X	X	
<b>Explosive Ordnance Disposal (EOD) Trainers Three-Dimensional (3-D)</b>			
<b>Classroom EOD System Trainer (CEST)</b>			
• Visual Recognition	X	X	
• Render Safe Procedure Operations	X	X	
<b>Practical EOD System Trainer (PEST)</b>			
• Visual Recognition	X	X	
• Render Safe Procedure Operations	X	X	
<b>March Order and Emplacement Trainer (MOET) Three-Dimensional (3-D)</b>			
• The manual Emplacement and March Order of the THAAD Radar Equipment	X	X	X

### c. TADSS Strategy

The following paragraphs explain in detail what the necessary TADSS capabilities are to support THAAD system training. It is important to note that embedded training capabilities will be used

whenever and wherever possible. Since things change during the Life Cycle Development and Procurement it is envisioned that the TADSS requirements explained here provide the best estimate to date.

Institutional and unit/sustainment training will require new training devices to support the THAAD system. These training devices will be realistic and replicate the system's hardware, software, and operational functions. See [the THAAD ORD](#) for detailed discussion of all THAAD training devices and requirements. The USAADASCH training device strategy is to teach **institutional and unit training** with TADSS combined with ET and standard Programs of Instruction (POIs). Individual and collective tasks will be taught using the institutional and/or unit training devices.

The THAAD operator/maintainers, through a combination of individual and collective tasks, will be trained to the skill levels required to operate and maintain the THAAD system. The training is designed to meet Standards in Training Commission (STRAC) crew qualification standards and support CATS. Training device programmed growth will allow interaction with the Air Defense Combined Arms Tactical Trainer (ADCATT) and will provide the training capability to perform interface and inter-operability functions. Integrated training with other combined arms units will provide continuity on the battlefield for situational awareness and support Army characteristics. This will include using Distributed Interactive Simulation (DIS) and the Synthetic Theater of War (STOW) capabilities and will be HLA compliant.

### **(1) THAAD Institutional Conduct of Fire Trainer (ICOFT)**

The purpose of the ICOFT is to train THAAD personnel in system operations, system integration and hardware/software. The ICOFT will consist of three (3) nodes, BM/C<sup>3</sup>I, Radar, and Launcher that are controlled by the ICOFT Control Consoles. This training device will provide realistic **institutional training** for BM/C<sup>3</sup>I, Radar, and Launcher operators/crewman. The device will simulate system hardware interfaces and provides institutional training of operational functions. It will be used to train operator/maintainers, staff and commanders on the hardware and software of the three (3) system segments either independently, simultaneously or collectively as an integrated system. Each of the three (3) nodes will run tactical software (embedded training, Interactive Electronic Technical Manuals (IETMs), and help aids) and replicate tactical system operations. The ICOFT nodes can be configured in all THAAD system configurations so skills learned on the ICOFT will be directly transferable to the actual system. The ICOFT also includes Part Task Trainers (PTTs) to teach initial switch settings and operator/maintainer removal and replacement functions.

(a) BM/C<sup>3</sup>I. This node allows students to realistically perform all the Battle Management, Operations Management, System Self-Test, System Support Communication tasks, and tactics associated with the THAAD BM/C<sup>3</sup>I function. The BM/C<sup>3</sup>I node shall simulate the THAAD BM/C<sup>3</sup>I system displays, controls, communications and data processing systems. The BM/C<sup>3</sup>I node shall have nine (9) student stations that can be operated independently, simultaneously or collectively with the ICOFT radar and launcher nodes as a THAAD system. This node will include a BM/C<sup>3</sup>I Part Task Trainer (PTT) to teach initialization procedures and removal and replacement functions performed by the enhanced operator/maintainer.

(b) Radar. This node provides students training on initialization of radar system software and to perform all required modes and functions. The radar node shall provide simulations of THAAD radar computer system controls and displays. The radar node shall have six (6) student stations that can be operated independently, simultaneously or collectively with the ICOFT BM/C<sup>3</sup>I and launcher nodes as a THAAD system. This node will include a radar PTT to teach initial switch settings and removal and replacement functions performed by the enhanced operator/maintainer.

(c) Launcher. This node provides simulations of the THAAD launcher computer systems controls and displays. The launcher node shall have nine (9) student stations that can be operated independently, simultaneously or collectively with the ICOFT BM/C<sup>3</sup>I and radar nodes as a THAAD system. This node will include a launcher PTT to teach initialization procedures and removal and replacement functions performed by the enhanced operator/maintainer.

(d) ICOFT Control Consoles. The Instructor Consoles control, monitor, and score the training for each of the three (3) nodes operating either independently, simultaneously, or collectively. The ICOFT Control Console will load training scenarios from either an on-line (primary storage) library of scenarios or removable (secondary storage) media, as well as generate new training scenarios and modify existing scenarios. The ICOFT Control Console controls and coordinates the advance of time and exchange of events between the nodes and the Instructor Console. The instructor at the Control Console can monitor, in real-time, interactions of each student station in each node while a training scenario is in progress and provides help and feedback to the student via internal communications. The ICOFT Control Console provides immediate scoring feedback to the students and compiles data for training developers.

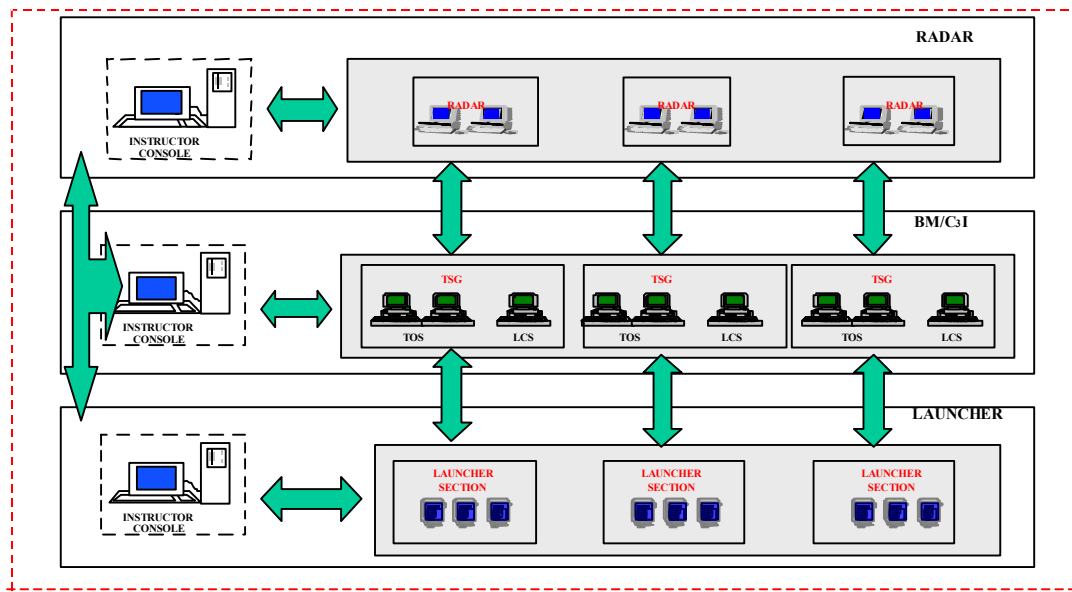


Figure I-1. THAAD ICOFT

## (2) THAAD Missile Round Trainers (MRTs)

Missile Round Trainers are divided into two (2) separate configurations to support **institutional and unit training**. They are the Missile Round Trainer (MRT) and the Missile Round Pallet Trainer (MRPT). Both are discussed in the following paragraphs.

(a) Missile Round Trainer. The MRT is used in conjunction with the Missile Round Pallet Trainer (MRPT) or Missile Round Pallet (MRP) to train operators in the handling of THAAD missiles at the **institutional and unit** levels. It provides the capability to train load/reload, hang-fire/misfire, missile handling, and transport procedures. The device will replicate system hardware interfaces and permit training of operational functions. The MRT is an inert device that simulates the weight, balance and external physical characteristics of the THAAD Missile Round (MR). It has external

electrical connectors that can sustain repeated connecting/disconnecting but contains no functioning internal electronic components and does not have electrical interfacing with any other equipment.

(b) THAAD Missile Round Pallet Trainer (MRPT). The MRPT is used in conjunction with Missile Round Trainers (MRTs) and THAAD Launcher to train operators in the handling of THAAD Missile Round Pallet (MRP) and THAAD Missile Rounds (MRs) at the **institutional and unit** levels. It provides the capability to train MRP and MR load/reload, MRP handling and transport procedures. The MRPT simulates the weight, balance and external physical characteristics and interfaces of the THAAD Missile Round Pallet (MRP). It is structurally the same as the Launcher MRP. Additional interfaces include the MR ground bar and ground reel. The MRPT has no functional electronics or capability for electronic interaction.



**Figure I-2. THAAD MRT/MRPT**

### **(3) THAAD Institutional Maintenance Trainer (IMT)**

The THAAD IMT must provide performance oriented training and be designed to train critical tasks associated with fault diagnosis and isolation on the THAAD weapon system. This feature is required to assess repairer performance. The IMT must replicate the tactical system in three-dimensional (3-D) fidelity to train all critical tasks, and all tasks selected by the proponent school for the device identified to support maintenance on the THAAD system. This device provides realistic training without the need for tactical equipment. The skills learned on this device must be directly transferable to the tactical equipment. The IMT consists of BM/C<sup>3</sup>I, radar and launcher PTTs and one (1) each 3-D mock-up of the radar Cooling Equipment Unit (CEU), and instructor stations that are interchangeable between the PTT and CEU. The IMT emulates the THAAD system by responding in the same manner and having the same performance fidelity as the objective system. This training device will provide realistic **institutional training** for BM/C<sup>3</sup>I, Radar, and Launcher operators/crewman, staff and commanders of the THAAD organization. It will simulate system hardware interfaces and permit institutional training of maintenance functions associated with organizational maintainers.

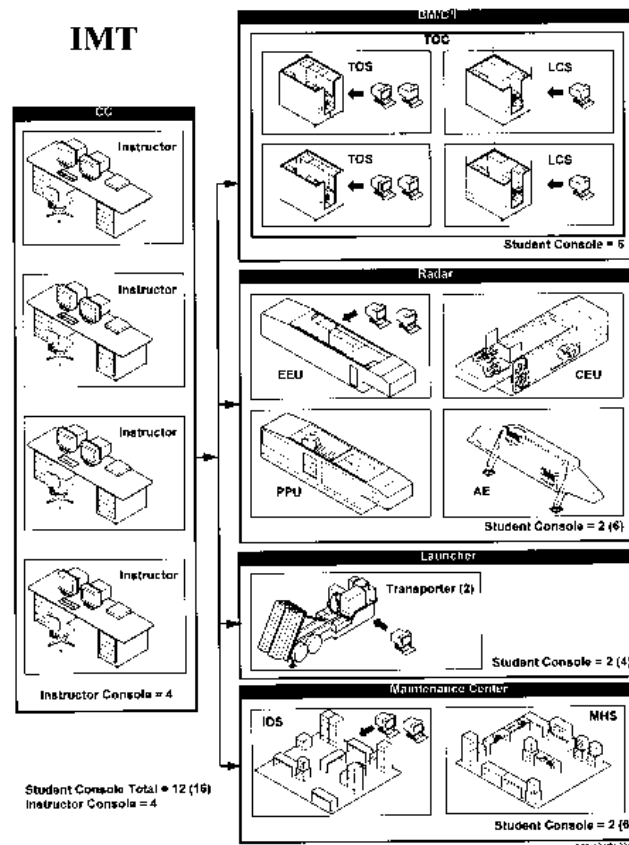
(a) BM/C<sup>3</sup>I. This PTT allows students to realistically perform all the maintenance tasks associated with the THAAD BM/C<sup>3</sup>I and system support communications functions. The BM/C<sup>3</sup>I PTT consists of a Launch Control Station (LCS) PTT and a Tactical Operations Station (TOS) PTT. These PTTs can be configured to provide training on either BM/C<sup>3</sup>I or Communications Relay (CR).

(b) Radar. The radar portion of the IMT contains an Antenna Element (AE) PTT, Electronic Equipment Unit (EEU) PTT, and one (1) 3-D mock-up of the Cooling Equipment Unit (CEU)

with functional mechanical/cooling capabilities. The radar PTTs and CEU mock-up emulate the objective system and responds in the same manner and has the same fidelity of performance to support critical task training. The instructor console at the PTT and the CEU mock-up will be interchangeable.

(c) Launcher. The launcher portion of the IMT contains a Launcher Electronics PTT. The launcher PTT provides a fault insertion capability representative of launcher computer system failures at Unit and DS maintenance levels. Immature data for the Launcher Hydraulic portion of the training course does not provide an adequate analysis to determine the trainer requirements for this area of the instruction required.

(d) Instructor Consoles. The instructor is capable of inserting faults from the Instructor Console using an on-line library and can generate new fault scenarios and modify existing ones. The instructor can also monitor, in real time, interactions of each student/station while a training scenario is in progress and compiles data for training developer use. There will be an Instructor Station with each PTT (CEU, AE, EEU, Launcher, and BM/C<sup>3</sup>I). All instructor stations shall be capable of operating any PTT.



**Figure I-3. IMT**

#### **(4) THAAD Explosive Ordnance Disposal (EOD) Trainers**

The purpose of these devices is to train Explosive Ordnance Disposal (EOD) personnel to recognize inherent hazards associated with the missile's explosive components and to practice EOD handling procedures to support **institutional training**. There are two (2) separate EOD trainers. They are the Practical Explosive Ordnance Disposal (EOD) System Trainer (PEST) and the Classroom Explosive Ordnance Disposal (EOD) System Trainer (CEST). These devices are described in the following paragraphs.

(a) Practical Explosive Ordnance Disposal (EOD) System Trainer.\_The PEST is a full-scale, inert mock-up or model of the production THAAD Missile/Canister. It must be identical to the production item in size, color and markings but is not required to be the identical weight. It must be light weight to facilitate manual handling, but retain the same center of gravity. Each section will be separable as in the production item and components shall be built to withstand many cycles of removal and replacement. All covers and access doors will be identical in size and shape to the actual item. Physical characteristics of the missile, or canister, that would be significant to performing a Render Safe Procedure (RSP) shall be reproduced in exact detail. The PEST is the training device used to train Render Safe Procedures (RSPs).

(b) Classroom Explosive Ordnance Disposal (EOD) System Trainer. The CEST is a half-scale, inert mock-up or model of the production THAAD missile/canister having a 90-120<sup>0</sup> degree cutaway of those areas containing explosive, hazardous and classified components. It shall allow visual recognition of all explosive, hazardous and classified components and the physical relationships. All external physical characteristics and markings shall be identical to those of the production missile. It shall have all connectors and wires realistically duplicating all operational items. It shall have all other components visually identical to the actual parts. Each section or module of the CEST will be separable as with the tactical missile. The components shall be able to withstand repeated separations. In addition to the installed components each CEST shall include one (1) complete set of recognition components consisting of inert 3-D explosive, hazardous, and classified items, either identical in size, weight, and color or in full size cutaway for classroom training. The CEST shall be packed in a re-usable shipping container. It includes a rolling stand or cradle designed to support the CEST when used for classroom instruction and provides mobility to relocate the CEST to support EOD training.



**Figure I-4. THAAD EODT.**

**(5) THAAD March Order and Emplacement Trainer (MOET)**

The MOET will provide realistic **institutional and unit training**. The device will replicate system hardware interfaces and permit training of operational functions. It provides the capability to train THAAD radar crew-members on tasks required to mechanically march order and emplace the THAAD Radar. The MOET is used in conjunction with the HEMTT tractor for training. The MOET simulates the size and external physical characteristics of the THAAD radar and consists of the following components:

- Antenna Equipment (AE). The AE MOET unit is a trailer simulating the size and physical characteristics of the THAAD radar AE and capable of simulating the leveling and rotation tasks of the antenna. The unit contains coolant supply and coolant return connectors for interfacing with the coolant lines from the CEU MOET. It is used to train the soldiers in proper connection of site cables and coolant connectors.
- Prime Power Unit (PPU). The PPU MOET is a trailer that replicates the appearance and size of the THAAD PPU. The simulator will be used to train soldiers on PPU road march, march order and emplacement procedures. It contains a generator and supplies 208 VAC for AE MOET unit power. The generator is mounted inside to the base of the PPU MOET unit. Operation of this generator is achieved through the simulated right and left Electrical Instrument control panels. It is also used to train soldiers in proper connection of site cables.
- Cooling Equipment Unit (CEU). The trainer is a trailer that replicates the appearance and size of the THAAD CEU. The simulator will be used to train soldiers in CEU road march, march order, and emplacement procedures. It will also train soldiers in the proper connection of site cables and coolant lines. The unit also provides power distribution to the AE MOET via the PDU panel.
- Electronics Equipment Unit (EEU). The trainer is a trailer that replicates the appearance and size of the EEU MOET. The simulator will be used to train soldiers in EEU road march, march order, and emplacement procedures. The unit contains a rear cupola similar in size and location to the rear cupola of the THAAD radar EEU. Within the MOET rear cupola are mock-ups of the THAAD EEU power entry and the ECU control panel. It is also used to train soldiers in the proper connection of site cables.

Note: The Radar Electrical Interconnections (REI) unit consists of twelve (12) signal, power, and status simulation cables, designed to simulate the size, weight, and physical characteristics of the THAAD radar connection cabling network and is used to support MOET training. All connectors used on this unit are identical to those used on the THAAD radar.



**Figure I-5. THAAD MOET.**

#### **d. Data Sources**

The Training Impact Analysis (TIA) indicated that institutional training would be cost effective if TADSS based. The Cost and Training Effectiveness Analysis (CTEA) findings were the same. The objective of these analyses was to evaluate effectiveness, and to estimate cost associated with THAAD institutional training. The Logistics Support Analysis (LSA) now called the Sustainment and Supportability Analysis is currently out in draft form.

**e. TADSS Type**

This list of type TADSS is not all inclusive but is to be considered for inclusion in the Combined Arms Training Strategy (CATS).

**Table I-2. TADSS for CATS**

<b>Type TADSS to be Considered for CATS</b>	
<b>Gunnery</b>	<b>ICOFT, System ET</b>
<b>Maneuver</b>	<b>MOET, BM/C<sup>3</sup>I, MRP/MRPT and Launcher</b>
<b>EOD</b>	<b>CEST, PEST</b>
<b>Embedded Training Software</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>Embedded Troop Proficiency Trainer</b>	<b>BM/C<sup>3</sup>I</b>
<b>IMI</b>	<b>TSP for NET/Sustainment training</b>
<b>Maintenance Training</b>	<b>IMT, ICOFT, System ET</b>
<b>Operations Training</b>	
<b>Tactical Operations</b>	<b>ICOFT, System ET</b>
<b>Engagement Operations</b>	<b>ICOFT, System ET</b>
<b>Force Operations</b>	<b>ICOFT, System ET</b>
<b>Joint Operations</b>	<b>System ET</b>
<b>Defense Planning</b>	<b>ICOFT, System ET</b>
<b>Networked Simulator or Simulation</b>	<b>BM/C<sup>3</sup>I</b>
<b>Distance Learning Capability (DLC)</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>Synthetic Theater of War (STOW)</b>	<b>BM/C<sup>3</sup>I, ICOFT</b>
<b>Computer-Based Training (CBT)</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>Web-Based Training (WBT)</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>High Level Architecture (HLA)</b>	<b>ICOFT, BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>Interactive Electronic Technical Manuals (IETM)</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>
<b>Interactive CD ROM Capability</b>	<b>BM/C<sup>3</sup>I, Launcher, and Radar</b>

**f. Embedded Training**

The THAAD system will use TADSS, as well as embedded training capabilities, for sustainment training during training exercises. Sustainment training will also be conducted via training exercises on THAAD system hardware. Further augmentation of sustainment training will occur through the use of an embedded Troop Proficiency Trainer (TPT) capability in the system software which simulates operational tactical battlefield information and provides unit sustainment training to support both EO and FO. The TPT will allow operators, staff and commanders to maintain proficiency in tactical decision-making procedures and console operation procedures through air defense battle and Distributed Interactive Simulation (DIS) networks. The embedded training must be interoperable through High Level

Architecture (HLA) and the Synthetic Theater of War (STOW) architecture to link the live, virtual, and constructive pieces of the training arena.

ET is not a separate training device but is a software capability in the tactical equipment. ET is a capability built into, added onto or connected to operational systems. It enables training delivery to soldiers using their own equipment while in the field or at home station. It will not adversely impact the operational requirements or capabilities of the system and should be identified early on to be incorporated into initial prototype design. It includes embedded user assistance, embedded simulation capability, embedded connections for attachment of appended training simulations, simulators and training instrumentation. ET includes system design allowing dual use of communication and instrumentation capability for training and tactical use and the use of system operating controls with appended/embedded training simulations. It can also provide a mechanism for interactive access, feedback, storage and dissemination of lessons learned as they occur.

**Table I-3. Embedded Training Capability**

<b>TACTICAL EQUIPMENT WITH EMBEDDED TRAINING CAPABILITY</b>				
<b>PURPOSE/FUNCTION</b>	<b>ET CATEGORY</b>	<b>NET</b>	<b>INSTITUTION</b>	<b>UNIT</b>
<b>THAAD BM/C<sup>3</sup>I</b>				
• Crew Operations	A, B, C, D	X	X	X
• Enhanced Operator/Maintainer Functions	A, B	X	X	X
• Engagement Operations	A, B, C, D	X	X	X
• Force Operations	A, B, C, D	X	X	X
• BM/C <sup>3</sup> I Operations	A, B, C, D	X	X	X
• Radar Operations	A, B, C	X	X	X
• Launch Operations	A, B, C	X	X	X
• Evaluation Function	A, B, C, D	X	X	X
• CATS	A, B, C, D	X	X	X
<b>THAAD Radar</b>				
• Crew Operations	A, B	X	X	X
• Enhanced Operator/Maintainer Functions	A, B	X	X	X
• Engagement Operations	C, D	X	X	X
• Detection Function	A, B, C	X	X	X
• Acquisition Function	A, B, C	X	X	X
• Identification/Classification Function	A, B, C	X	X	X
• Tracking Function	A, B	X	X	X
• Evaluation Function	A, B, C, D	X	X	X
• CATS	A, B, C, D	X	X	X
<b>THAAD Launcher</b>				
• Crew Operations	A, B	X	X	X
• Enhanced Operator/Maintainer Functions	A, B	X	X	X
• Engagement Operations	C, D	X	X	X
• Launch Operations	C, D	X	X	X
• Re-load Operations	A, B	X	X	X
• Evaluation Function	A, B, C, D	X	X	X
• CATS	A, B, C, D	X	X	X

Note: ET Categories: There are four embedded training categories based on the level of training to be fulfilled. They are aligned along the training spectrum from individual to collective tasks for the BM/C<sup>3</sup>I, radar and launcher.

Category A: Individual/Operator. The objective of Category A is to train and sustain individual operator and maintenance task skills.

Category B: Crew/Team. Category B's objective is to train and sustain combat ready crews and teams. This category builds on individual skills acquired from Category A.

Category C: Functional. The objective of Category C is to train and sustain commanders, staffs, and crews/teams within each functional area to be utilized within their operational role.

Category D: Force Level/Combined Arms and Battle Staff. Category D's objective is to train and sustain combat ready commanders and battle staffs utilizing the operational system in its operational role.

### **(1) BM/C<sup>3</sup>I Embedded Training**

The THAAD BM/C<sup>3</sup>I provides realistic operator and crew training using THAAD hardware and operational software. The embedded training Computer Software Configuration Item (CSCI) supports training of Tactical Operations Center (TOC) and Sensor System Interface (SSI) in both garrison and field environments. TOC training may be conducted using a TOS and LCS linked to form a single Tactical Station Group (TSG) operating in isolation. Also, this TSG used for training may operate within a TOC linked with other TSGs, THAAD Radars (TRs), launchers, lower tier Theater Missile Defense (TMD) units, adjacent units, higher-echelon units, or multinational units. The selection of the ET mode may also operate concurrently with the operations mode. Fail-safe measures will prevent the transmission of messages and commands during ET that could result in unintentional launch, radar operation, or damage to personnel and equipment.

Individual training for the BM/C<sup>3</sup>I operator guides the soldier through hands-on practice in the use of BM/C<sup>3</sup>I hardware, software publications, and operator level fault detection and isolation software. Operator task training reinforces skills learned in training institutions and teaches advanced skills detailed in the applicable Soldier Training Publications (STPs), in the Crew Drills and Mission Training Plans (MTPs).

Embedded training capabilities also support multi-echelon collective training for THAAD combat crews, batteries, battalion/task forces and joint training. During ET, operators interact with the system in the same manner as they would under actual combat conditions. Using simulations of THAAD equipment, lower-tier air defense elements, and ADA TOCs and threat TBMs the embedded training software generates a high-fidelity simulation of force on force combat operations through interaction with the THAAD BM/C<sup>3</sup>I software. ET allows the simultaneous processing and display of “live” targets and simulated TBM targets. Training may be conducted within a single battery or battalion, or concurrently with other THAAD batteries and battalions. THAAD units may also participate in netted Air Defense Combined Arms Tactical Training (ADCATT) and joint training exercises through interface with DIS compliant simulations such as Synthetic Theater of War-Theater Missile Defense (STOW-TMD), Extended Air Defense Simulation (EADSIM), and Warfighter Simulation 2000 (WARSIM 2000).

ET also provides evaluation functions for defense planning and rehearsal. Results of war games based on operator Measures of Effectiveness (MOEs) and Measures of Performance (MOPs) are provided to adjust decisions and training during theater defense battle operations.

## **(2) Radar Embedded Training**

The THAAD Radar embedded training is used to train radar operators and crews to maintain proficiency in decision making and console operations conducted at the EEU. It is used to support unit and stand-alone training. The software is executable from a separate storage device dedicated to support training. During stand-alone training the crew does not communicate with the BM/C<sup>3</sup>I. During unit training with the radar in the training mode the crew does communicate with the BM/C<sup>3</sup>I for integrated operations.

## **(3) Launcher Embedded Training**

This ET supports unit and stand-alone training. It is used to train operators and crews in electrical emplacement and initialization of the THAAD launcher, as well as BIT/BITE fault isolation procedures. The ET supports training with or without MRPT/MRPs installed. The ET supports training of information message exchange with the BM/C<sup>3</sup>I. It provides the normal indications present during system operations. When used with the MRPT or MRP, the crew can train all electrical and mechanical March Order and Emplacement (MO&E), and system initialization and integration functions.